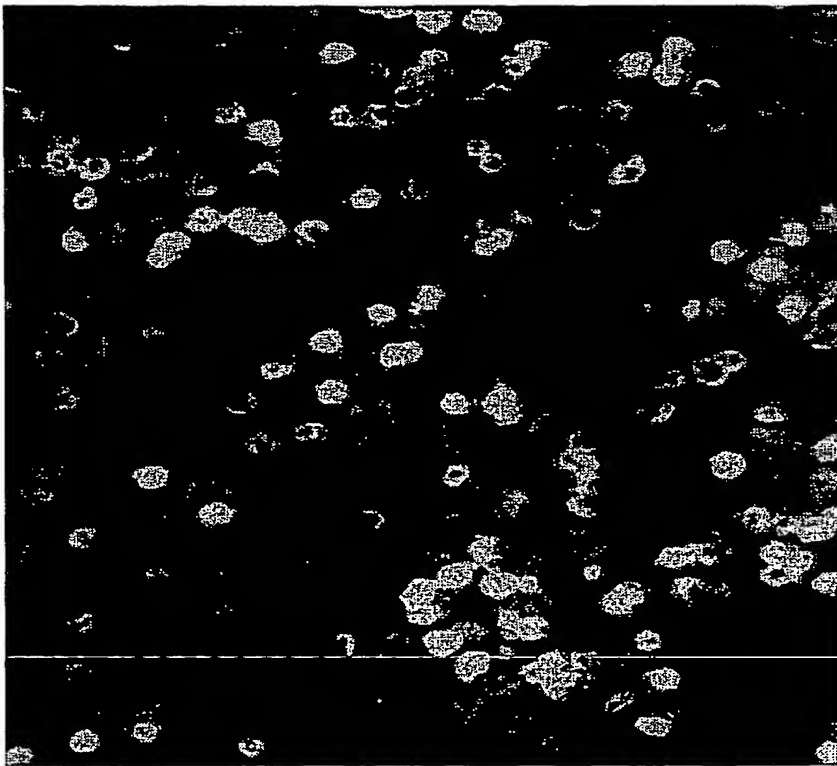


Invasion of Hs-27 control cells



Invasion of HT1080 cells

Fig. 1

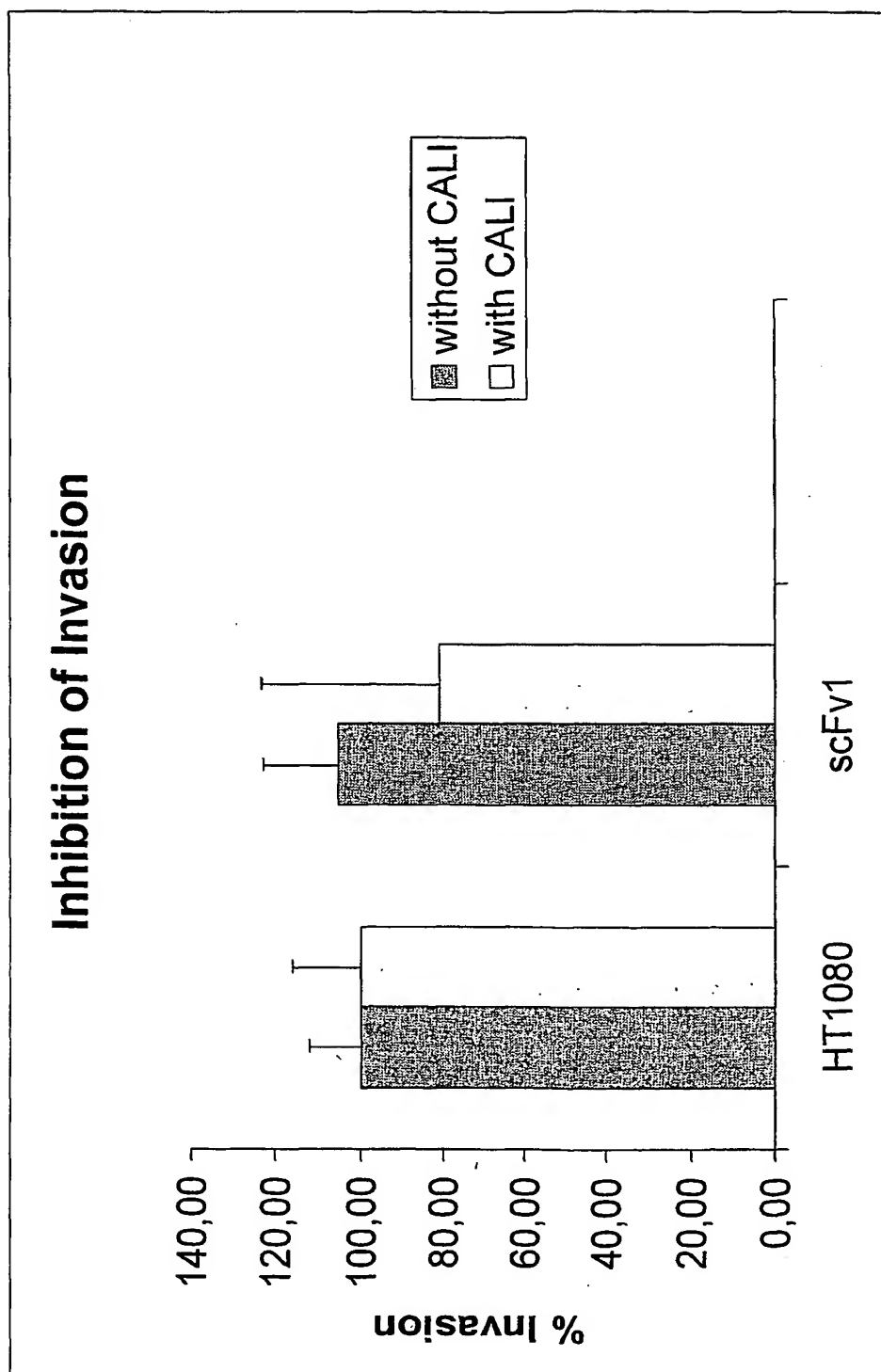


Fig. 2

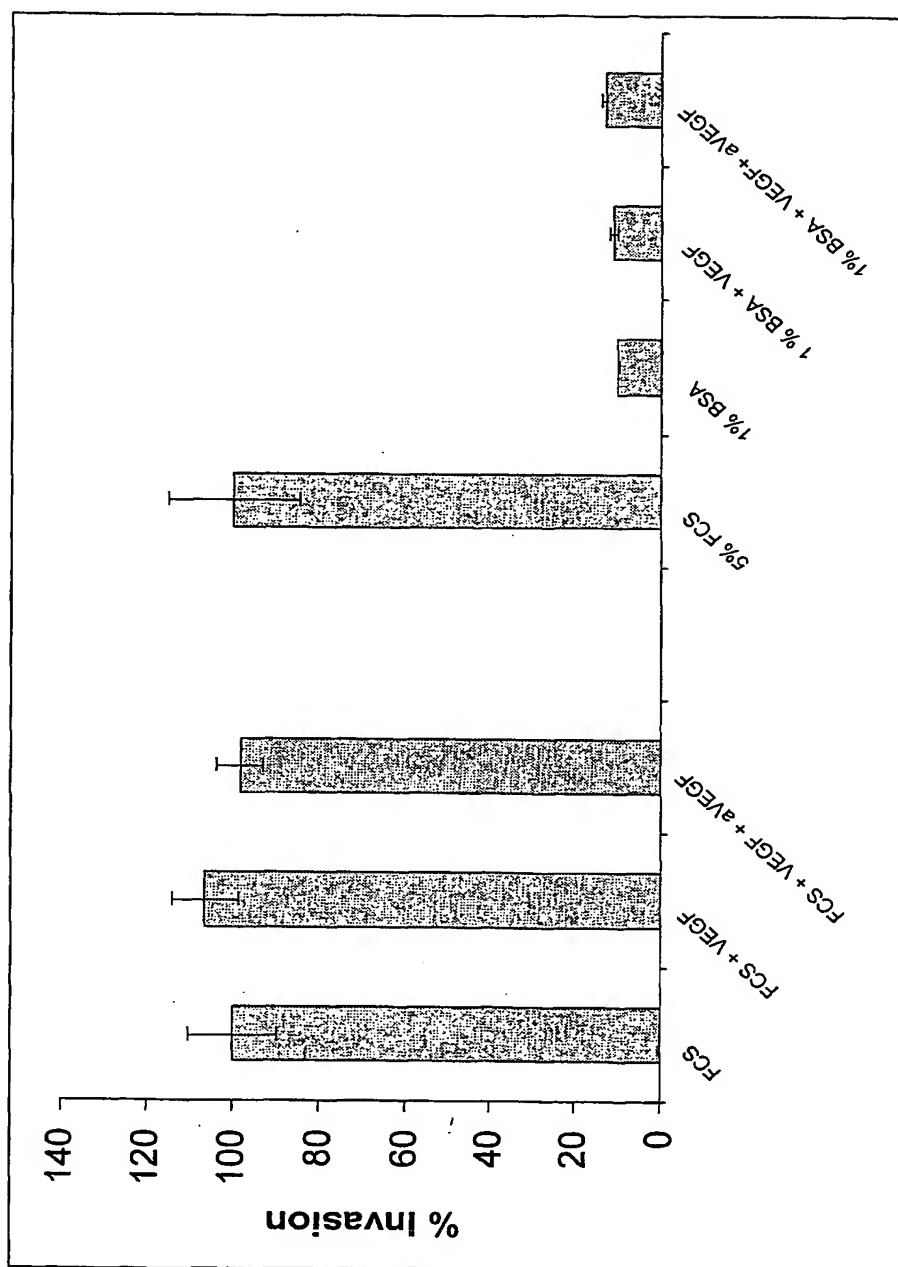


Fig. 2a

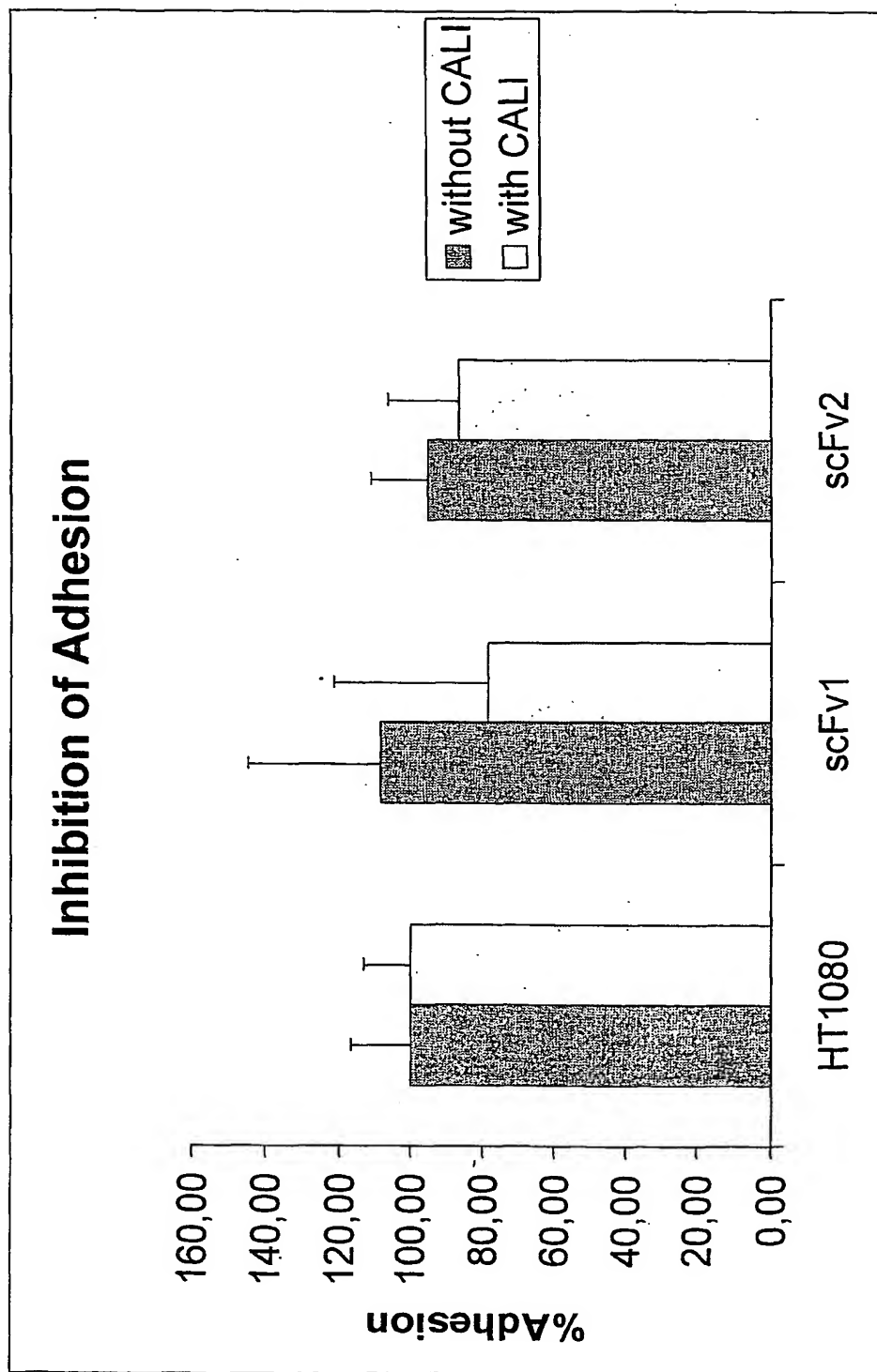


Fig. 3

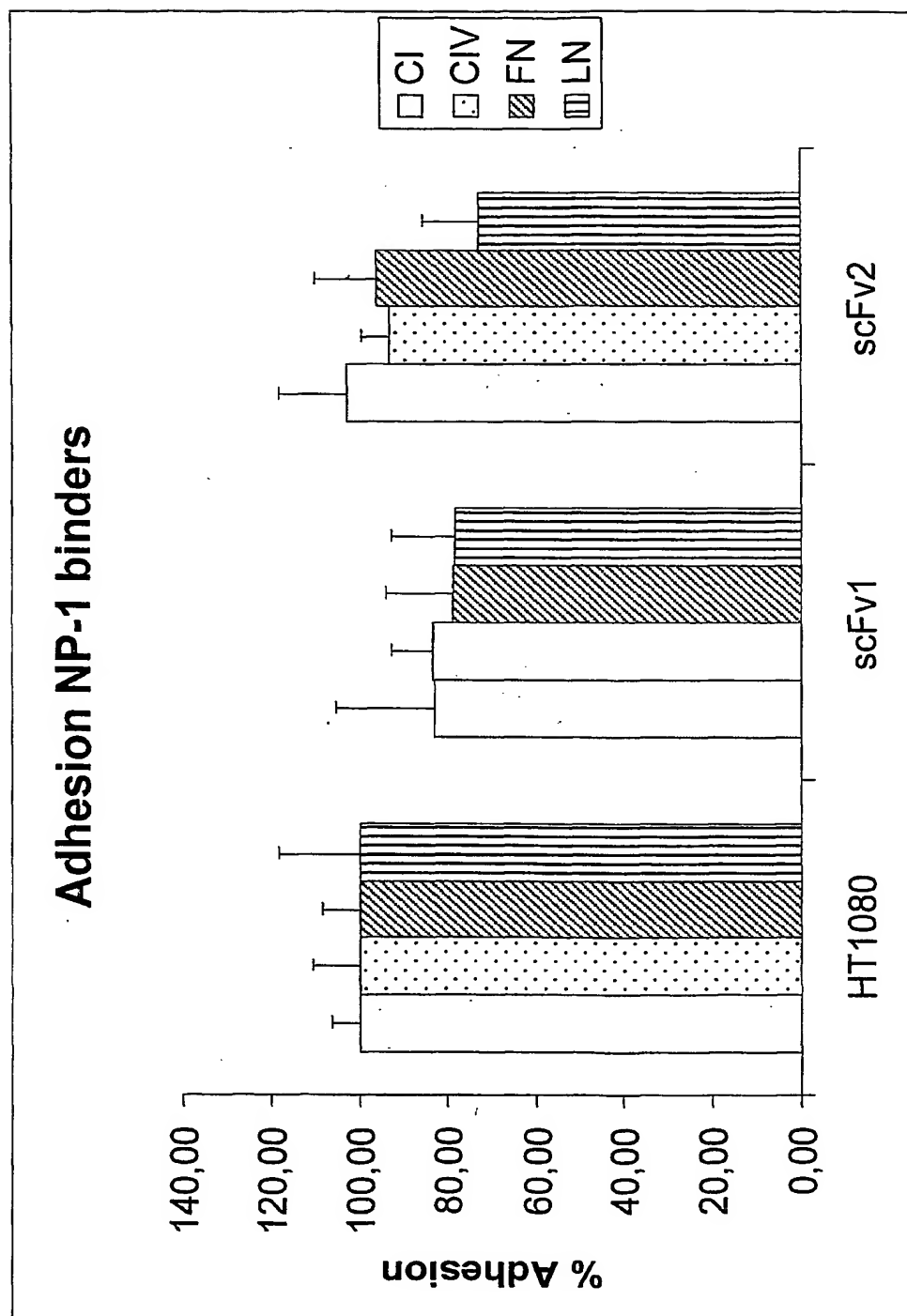


Fig. 4

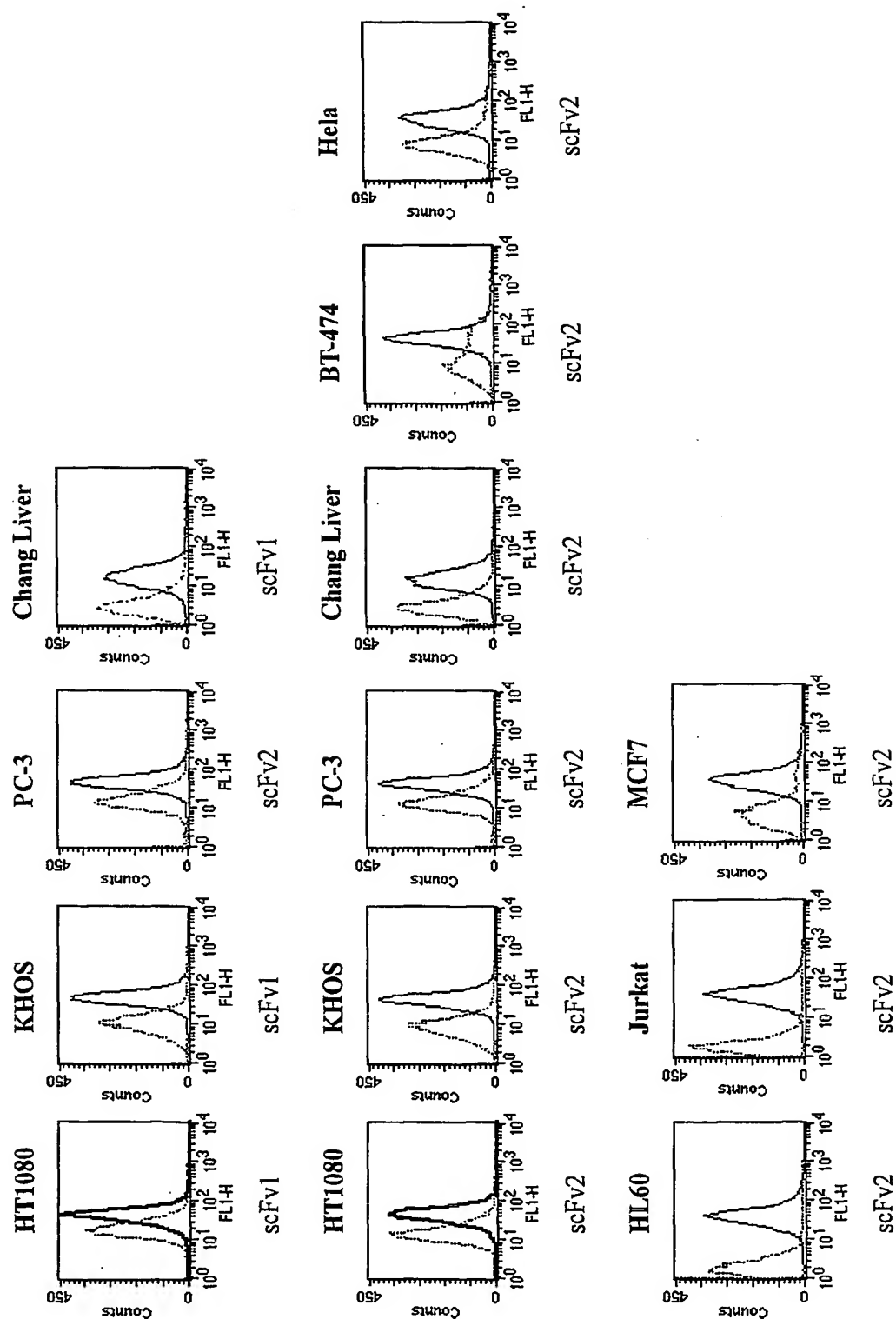


Fig. 5

~ 130 kDa = Neuropilin

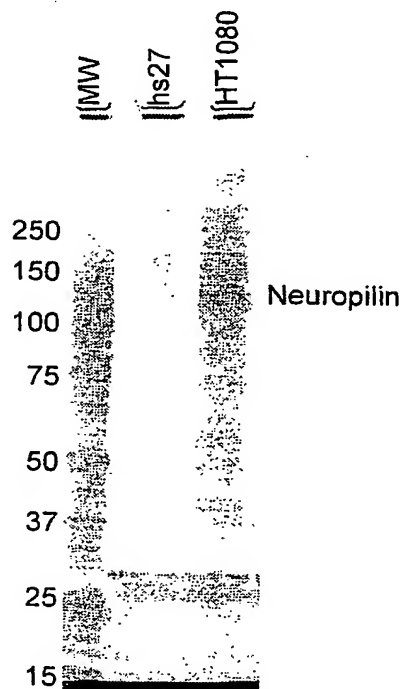


Fig. 6

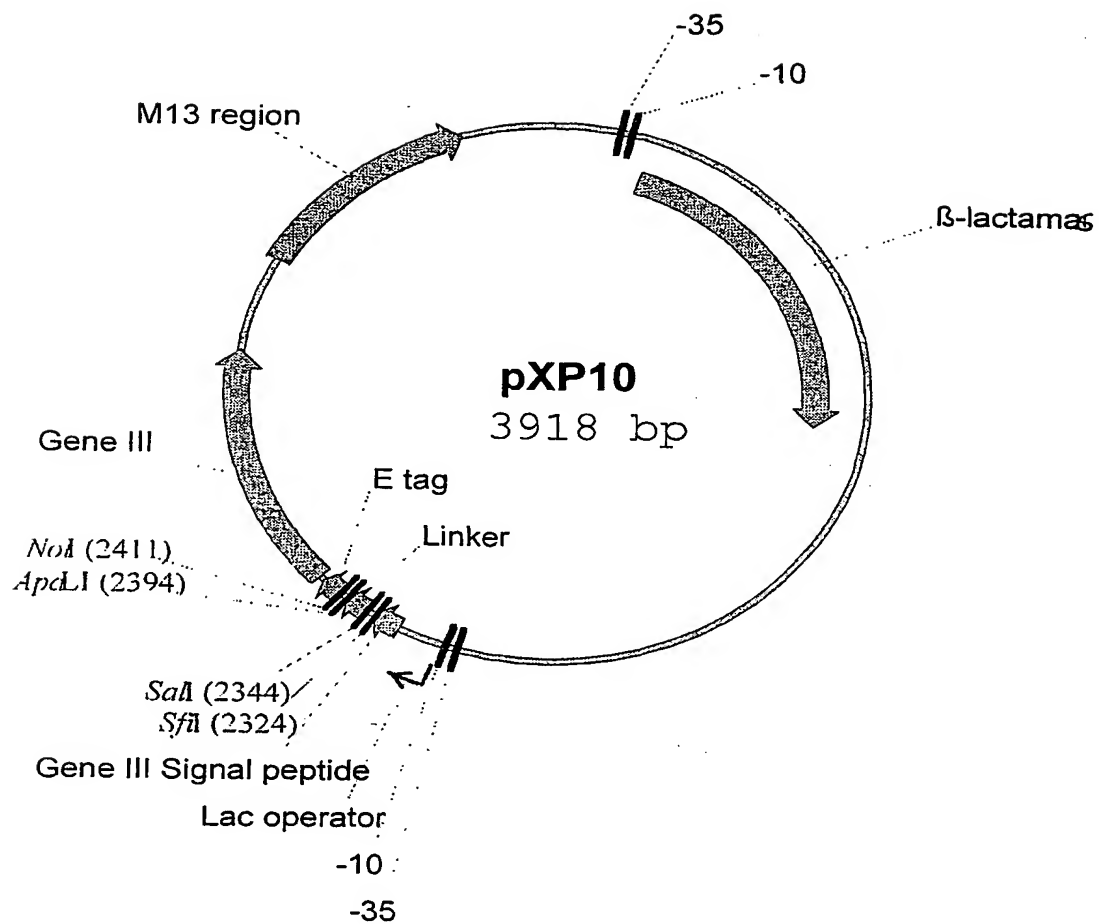


Fig. 7a



## Nucleotide Sequences pXP10

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Fig. 7b

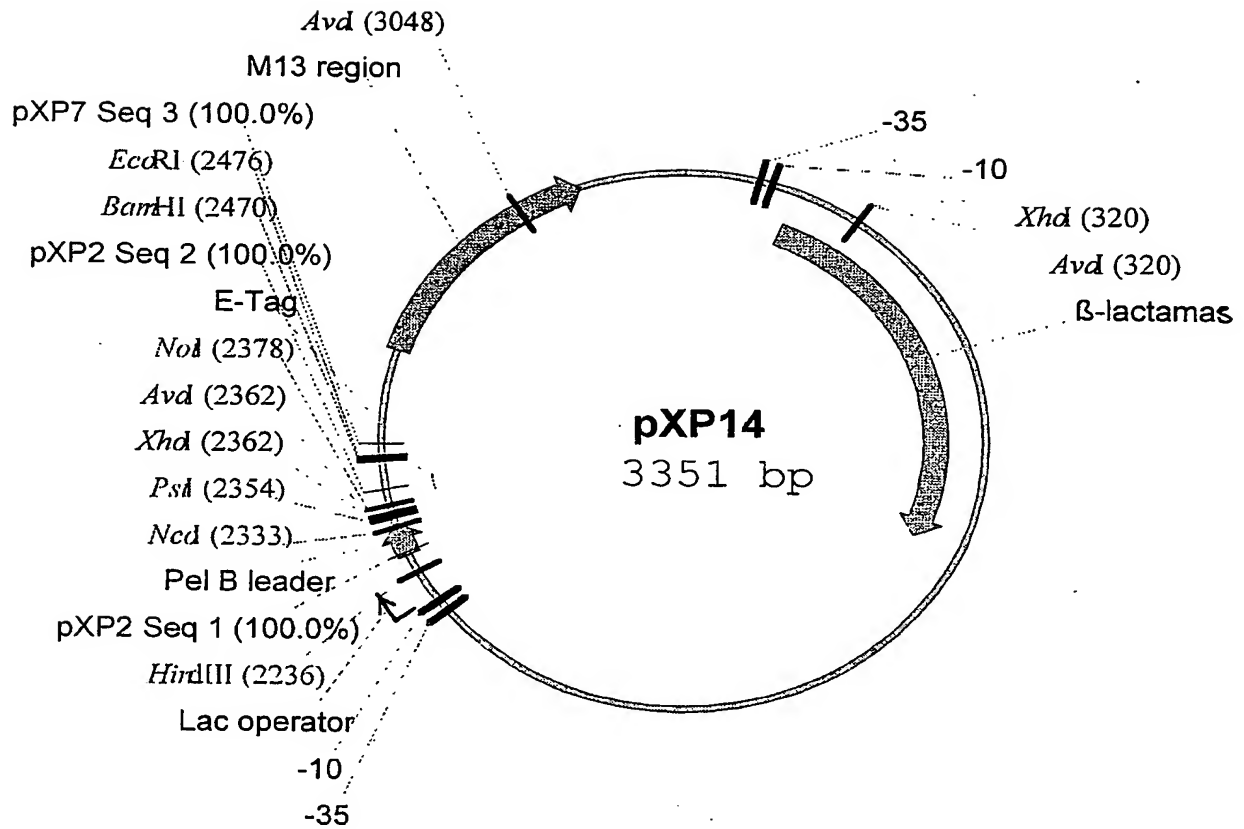


Fig. 8a

## Nucleotide Sequences pXP14

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2501 GTCGTGACTG GGAAAACCCCT GCGGTTACCC AACTTAATCG CCTTGCAGCA  
CAGCACTGAC CCTTTTGGGA CCGCAATGGG TTGAATTAGC GGAACGTCGT  
2551 CATCCCCCTT TCGCCAGCTG GCGTAATAGC GAAGAGGCCG GCACCGATCG  
GTAGGGGGAA AGCGGTCGAC CGCATTATCG CTTCTCCGGG CGTGGCTAGC  
2601 CCCTTCCCAA CAGTTGCGCA GCCTGAATGG CGAATGGCGC CTGATGCGGT  
GGGAAGGGTT GTCAACGCGT CCGACTTACC GCTTACCGCG GACTACGCCA  
2651 ATTTTCTCCT TACGCATCTG TCGGGTATTT CACACCGCAT ACGTCAAAGC  
TAAAAGAGGA ATGCGTAGAC ACGCCATAAA GTGTGGCGTA TGCAGTTTCG  
2701 AACCATAGTA CGCGCCCTGT AGCGGCGCAT TAAGCCCGGC GGGTGTGGTG  
TTGGTATCAT GCGCGGGACA TCGCCGCGTA ATTCGGGCGC CCCACACCAC  
2751 GTTACGCGCA GCGTGACCGC TACACTTGCC AGCGCCCTAG CCCCCGCTCC  
CAATGCGCGT CGCACTGGCG ATGTGAACGG TCGCGGGATC GGGGGCGAGG  
2801 TTTTCGCTTTC TTCCCTTCCT TTCTCGCCAC GTTCGCGGC TTTCCCGTTC  
AAAGCGAAG AAGGGAAGGA AAGAGCGGTG CAAGCGGCCG AAAGGGGCAG  
2851 AAGCTCTAAA TCGGGGGCTC CCTTTAGGGT TCCGATTTAG TGCTTTACGG  
TTCGAGATTT AGCCCCGAG GGAAATCCCA AGGCTAAATC ACGAAATGCC  
2901 CACCTCGACC CCAAAAACT TGATTTGGGT GATGGTTCAC GTAGTGGGCC  
GTGGAGCTGG GGTTTTTTGA ACTAAACCCA CTACCAAGTG CATCACCCGG  
2951 ATCGCCCTGA TAGACGTTT TTCGTCCTTT GACGTTTCGAG TCCACGTTCT  
TAGCGGGACT ATCTGCCAAA AAGCAGGAAA CTGCAAGCTC AGGTGCAAGA  
3001 TTAATAGTGG ACTCTGTTC CAAACTGGAA CAATACTCAA CCCTATCTCG  
AATTATCACC TGAGAACAAG GTTTGACCTT GTTATGAGTT GGGATAGAGC  
3051 GGCTATTCTT TTGATTTATA AGGGATTTTG CCGATTTTCG CCTATTGGTT  
CCGATAAGAA AACTAAATAT TCCCTAAAAC GGCTAAAGCC GGATAACCAA  
3101 AAAAAATGAG CTGATTTAAC AAAAATTTAA CGCGAATTTT AACAAAATAT  
TTTTTTACTC GACTAAATTG TTTTAAATT GCGCTTAAAA TTGTTTTATA  
3151 TAACGTTTAC AATTTTATGG TGCAGTCTCA GTACAATCTG CTCTGATGCC  
ATTGCAAATG TTAAAATACC ACGTCAGAGT CATGTTAGAC GAGACTACGG  
3201 GCATAGTTAA GCCAGCCCCG ACACCCGCCA ACACCCGCTG ACGCGCCCTG  
CGTATCAATT CGGTCGGGGC TGTGGGCGGT TGTGGGCGAC TGC GCGGGAC  
3251 ACGGGCTTGT CTGCTCCCGG CATCCGCTTA CAGACAAGCT GTGACCGTCT  
TGCCCGAACA GACGAGGGCC GTAGGCGAAT GTCTGTTTCA CACTGGCAGA  
3301 CCGGGAGCTG CATGTGTCAG AGGTTTTTAC CGTCATCACC GAAACGCGCG  
GGCCCTCGAC GTACACAGTC TCCAAAAGTG GCAGTAGTGG CTTTGC GCGC  
3351 A  
T

Fig. 8b

**cDNA primers**

VLK-c	CTGGATGGTGGGAAGATGGA
VLL-c	TCAGAGGAAGGAAACAGGGT
IgG1-c	CTTACAACCACAATCCCTGGGCACAATTTT
IgG2a-c	CTTTGTGGGCCCTCTGGGCTCAAT
IgG2b	TGAAATGGGCCCGCTGGGCTCAAG
IgG3-c	GGGCTTGGGTATTCTAGGCTCGAT

**VH forward primers without restriction sites**

M-VH1	GAGGTGCAGCTTCAGGAGTCAGG
M-VH2	CAGGTGCAGCTGAAGGAGTCAGG
M-VH3	GAGGTCCAGCTGCAACAGTCTGG
M-VH4	GAGGTTTCAGCTGCAGCAGTCTGG
M-VH5	CAGGTCCAACCTGCAGCAGCCTGG
M-VH6	CAGGTTTCAGCTGCAGCAGTCTGG
M-VH7	GAGGTGAAGCTGGTGGAGTCTGG
M-VH8	GAGGTGAAGCTGGTGGAACTCTGG
M-VH9	GAGGTTTCAGCTTCAGCAGTCTGG

**VH backward primers without restriction sites**

M-JH1	TGAGGAGACGGTGACCGTGGTCCC
M-JH2	TGAGGAGACTGTGAGAGTGGTGCC
M-JH3	TGCAGAGACAGTGACCAGAGTCCC
M-JH4	TGAGGAGACGGTGACTGAGGTTCC

**VL forward primer without restriction sites**

M-VK1	GACATTGTGATGACACAGTCTCC
M-VK2	GATGTTGTGATGACCCAACTCC
M-VK3	GATATCCAGATGACACAGACTCC
M-VK4	CAAATTGTTCTCACCAGTCTCC
M-VL1	CAGGCTGTTGTGACTCAGGAATC

**VL backward primers without restriction sites**

M-JK1	TTTGATTTCCAGCTTGGTGCCTCC
M-JK2	TTTTATTTCCAGCTTGGTCCCCC
M-JK3	TTTCAGCTCCAGCTTGGTCCCAGC
M-JL1	ACCTAGGACAGTGACCTTGGTTC

Fig 9



## VH forward primers with restriction sites

MVH1 Sfil	GTCCTCGCAACTGCGGCCAGCCGGCCATGGCCGAGGTGCAGCTTCAGGAGTCAGG
MVH2 Sfil	GTCCTCGCAACTGCGGCCAGCCGGCCATGGCCGAGGTGCAGCTGAAGGAGTCAGG
MVH3 Sfil	GTCCTCGCAACTGCGGCCAGCCGGCCATGGCCGAGGTCCAGCTGCAACAGTCTGG
MVH4 Sfil	GTCCTCGCAACTGCGGCCAGCCGGCCATGGCCGAGGTTCAGCTGCAGCAGTCTGG
MVH5 Sfil	GTCCTCGCAACTGCGGCCAGCCGGCCATGGCCGAGGTCCAAGTGCAGCAGCCTGG
MVH6 Sfil	GTCCTCGCAACTGCGGCCAGCCGGCCATGGCCGAGGTTCAGCTGCAGCAGTCTGG
MVH7 Sfil	GTCCTCGCAACTGCGGCCAGCCGGCCATGGCCGAGGTGAAGCTGGTGGAGTCTGG
MVH8 Sfil	GTCCTCGCAACTGCGGCCAGCCGGCCATGGCCGAGGTGAAGCTGGTGGAAATCTGG
MVH9 Sfil	GTCCTCGCAACTGCGGCCAGCCGGCCATGGCCGAGGTTCAGCTTCAGCAGTCTGG

## VH backward primers with restriction sites

MJH1 Sall	GAGTCATTCTCGTGTGACACGGTGACCGTGGTCCC
MJH2 Sall	GAGTCATTCTCGTGTGACACTGTGAGAGTGGTGCC
MJH3 Sall	GAGTCATTCTCGTGTGACACAGTGACCAGAGTCCC
MJH4 Sall	GAGTCATTCTCGTGTGACACGGTGACTGAGGTTC

## VL forward primers with restriction sites

MVK1 ApaL1	TGAGCACACAGTGCACTCGACATTGTGATGACACAGTCTCC
MVK2 ApaL1	TGAGCACACAGTGCACTCGATGTTGTGATGACCCAAACTCC
MVK3 ApaL1	TGAGCACACAGTGCACTCGATATCCAGATGACACAGACTCC
MVK4 ApaL1	TGAGCACACAGTGCACTCCAAATTGTTCTCACCCAGTCTCC
MVL1 ApaL1	TGAGCACACAGTGCACTCCAGGCTGTTGTGACTCAGGAATC

## VL backward primers with restriction sites

M-JK1 Not1	GAGTCATTCTCGACTTGCGGCCGCTTTGATTTCCAGCTTGGTGCCTCC
M-JK2 Not1	GAGTCATTCTCGACTTGCGGCCGCTTTTATTTCCAGCTTGGTCCCCC
M-JK3 Not1	GAGTCATTCTCGACTTGCGGCCGCTTTCAGCTCCAGCTTGGTCCCAGC
M-JL1 Not1	GAGTCATTCTCGACTTGCGGCCGCACCTAGGACAGTGACCTTGGTTCC

Fig. 9

Polypeptide or NPB	SEQ ID No.	Protein Sequence	SEQ ID No. of the CDR 3 as underlined
scFv1	1	1 EVQLQQSGPE LVPKALVKI SCKASGYT <u>VT</u> SYDINWVKQR PQGLEWIGW 51 IYPGDGSTKY NEKFKGKATL TVDKSSTVY MQLSLTSEN SAVYFCARGG 101 KYFDYWGQGT TLTVSTGGG SGGGGSGGG SALDIVMTQS PKFMSTSVGD 151 RVSVTCKASQ NVATNVAWYQ QKPGQSPKPL TYSASFRSSG VPDREFTGSGS 201 GTDFTLTISN VQSEDLAEYF CQQYNSYPYT FGGGTKLEIK AAAGAPVPYP 251 DPLEPRGAAS AWSHPQFEK*	73
scFv2	2	1 EVQLLESGG LVPGGSLRL SCAASGTF <u>TS</u> SYAMSWVRQA PGKGLEWVSA 51 ISGSGGGTY AD <u>SVKGRFTI</u> SRD <u>NSKNTLY</u> LQNSLRAED TAVYYCAR <u>DS</u> 101 GLQQGPRRRG ARVNF <u>SYGL</u> DWGRGTT <u>VT</u> VSSGGGGSGG GSGGGGSAQ 151 AVLTQPSSAS GTPGQRTIS CSGSNSNIGR NYVEWYQQFP GTAPKILYR 201 NNQRPSPGPD RFGSKSGTS ASLAISGLRS EDEADY <u>CAS</u> WDDSLTWVEG 251 GGTKVTVLGA AAGAPVPYPD PLEPRGAASA WSHPQFEK*	74
scFv3	5	1 ASVKVSKTS GYTFIAYI <u>TH</u> WVRQPGQGL EWMGRINPNT GGINLAQKFQ 51 GRVTVTRDTS ISTAHMELSR LSSDDTAVY <u>CARE</u> RIVPAG LRNRGMVTAV 101 GMDVWGRGTL VT <u>VSSGGG</u> SGS GGGGGGGGS AQSVVTQPPS MSGTPGQRVT 151 ISCSGSR <u>NI</u> GRNYVYWYQQ FPGTAPKLLI YRNNRPSGV PDRFSASKSG 201 TSASLAISGL RSEDEADY <u>C</u> ATWDDSLSGT WVEGGGTKLT VLGA <u>AA</u>	75
scFv4	6	1 LLESGGGLVQ PGGSRLRSC ASGTFESSY <u>MSWVRQAPGK</u> GLEWVSAISG 51 SGGSTYYADS VKGRFTISR DSKNTLYLQ <u>NSLRAEDTAV</u> YYCARGGGRY 101 DSSHGFD <u>SWG</u> RGTMTVSSG GGGSGGGSGG GGSALS <u>YEL</u> TQPPSVSVAP 151 GETATITCGG RSLGSKV <u>VHW</u> YQKPGQAPT LVIYYDSVRP SGVPERFSAS 201 NSRLSATLTV SRVEAGDEAD Y <u>Y</u> QVWDRSS DHYVEGTGK LTVLGAA <u>AA</u>	76
scFv5	7	1 QLLESGGLV QPGSLRLSC AASGTFESSY <u>AMSWVRQAPG</u> KGLEWVSAIS 51 GSGSTYYAD <u>SVKGRFTISR</u> DSKNTLYLQ <u>MNSLRAEDTA</u> VYCARDWRW 101 QQFGGWFD <u>PPW</u> GRGTLTVSS GGGSGGGSGS GGGSALETT LTQSPATLSL 151 SPGETATLFC RASQSVRNNL <u>VWYQOKLQQA</u> PRLIFGAST RASGIPDRFT 201 GSGSGTDFSL TITKLEPDEF AVYICQRYGG FPITFGQGR L <u>LEIKRAAA</u>	77
scFv6	8	1 QLVQSGGGLV QPGSLRLAC EASGRFESSY <u>GMSWVRQAPG</u> KGLEWVSSMS 51 DSGANTYYAD <u>SVKGRFTISR</u> DNAKMLYLQ <u>MSSLRGEDTA</u> VYCATLFRG 101 SGYVRHWGRG TLVTVSSGGG GSGGGSGGGG GSAQAVLTQP SSASGTPGQR	78

Fig. 40

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scFv7	9	151	VIISCSGSS	NIASNYVYVY	QQLPGTAPKL	LISKNSRRPS	GVPDRFSGSK	79
		201	SGTSASLAIS	ELRSEDEADY	YCAAWDRRLS	GPAGGGGTKL	TVLGAAA	
		1	KKPGSSVKVS	CKASGTFSS	YAISWVRQAP	GQGLEWMMGI	IPMSGTPNYA	
		51	KQFQDRVTIT	ADKSTSTAYM	ELSLRSEDPT	AVYYCARGGR	YVDFGRGPSY	
		101	HYIYMDVWGR	GTLTVSSGG	GGSGGGSGG	GGSAQSVLTQ	PPSASGTPGQ	
scFv8	10	151	RVTISCSGAT	SNIGRNYVYW	YHQLPGTAPK	LLIYRNDQRP	SGVPDRFSGS	80
		201	KSGTSASLAI	SGLRSDDEAD	YYCAWDDNL	SGLFFGGGTK	LTVLGAAA	
		1	AQVQLQWGP	GLVKASEILS	LNCTVSGSSL	SSGYYWWSWI	RQHPGKGLEW	
		51	IGYIHYSGST	YINPSLKS RV	TISVDTSKNQ	FSLKLSSTVA	ADTAVYYCAR	
		101	VPLRFDFGFDV	WGQGTLLTVS	SGGGGGGGG	SGGGGSDIQM	TQSPSTLSAS	
scFv9	11	151	IGDRVTTITCR	ASEGIYHWLA	WYQOKPGKAP	KLLIYKASSL	ASGAPSRFSG	81
		201	SGSGTDEFTLT	ISSLPDDFA	TYICQOYSNY	PLTFGGGTKL	EIKRAAA	
		1	ELKKFGSSVK	VSCKAPRGTF	NSYALNWVRQ	APQGLEWMG	GIPIFGSAN	
		51	YAPKEQGRVT	ITADESTTA	YLELSSLRSE	DTAVYYCARA	LHLDYVWRTY	
		101	NYIEDNWGKG	TMVTVSSGG	SGGGGGGGG	GSALSELTLQ	DPAVSVALGQ	
scFv10	12	151	TVRITCQGDS	LRSYIASWYQ	QKPGQAPVLV	IYCKNSRPSG	IPDRFSGSDS	82
		201	GNTASLTITG	AQAEDEADYY	CNSDRSGNR	VVFGGGTKLT	VLGAAA	
		1	SIRLSCAASG	FTFSSYAMSW	VRQAPGKGLE	WVSAISGGG	STYYADSVKG	
		51	RFTISRDN SK	NTLYLQWNSL	RAEDTAVIYC	ARGVTYHYDH	DRRGVTAQIY	
		101	NHGLDVWGRG	TTVTVSSGGG	SGGGGGGGG	GSAQAVLTQP	SSASGTPGQR	
scFv11	13	151	VTISCSGSSS	NIGKNYVYVY	QQLPGTAPKL	LIYRNNQRPS	GVPDRFSGSK	83
		201	SGTSASLAIS	GLRSEDEADY	YCAARDNGLS	AYVIFGGGTK	LTVLGAAA	
		1	VKKPGESLKI	SCKSGSYSEF	NYWTAWVRQM	PGKLEWMGI	IYPGDSDTIY	
		51	SPSFRGQVTI	SADKSI STAY	LQWSSLKASD	TAMYYCARQG	CSGGKCYEKM	
		101	YASDIWGRGT	LVTVSSGGGG	SGGGGGGGG	SALSVELTQP	PSASGTPGQR	
scFv12	14	151	VTISCSGSTS	NIGRNSVFWH	QQLPGTAPKV	LISSDNQRPS	GVSDRFSGSD	84
		201	SGTSASLVIS	RLREDEGDY	YCAAWDDSL	AYVFGSGTKL	TVLGAAA	
		1	AEVKKPGSSV	RVSCKASGDT	FSYNAINWVR	QAPGQGLEWM	GGIIPMFETA	
		51	KQAQKFQGRV	TFTADESTST	AYMELTRLRS	EDTAMYYCAR	RGSYSNYERG	
		101	YYYHMDVWQ	GTLTVSSGG	GGSGGGGGG	GGSAQSVLTQ	PPSASGAPGQ	
scFv13	15	151	RITISCSGST	ENIGRNYVDW	YKQLPGTAPK	LFTYKNDQRP	SGVPDRFSGS	85
		201	KSGTSASLV	SGLRSEDEAD	YYCLTWDDSL	SGPVFEGGTK	LTVLGAAA	
		1	LQESGPGLVK	PSGTLSTLCA	VSGGSINNNN	WWSWVRQPPG	KGLEWIGELY	
		51	QSGSTNYNPS	LKSRVTISVD	KSNQFSLKM	SSVTAADTAV	YYCARLNNH	
		101	GPYYGMDVWG	RGTLLTVSSG	GGSGGGGGG	GGSAQSVLT	QPPSASGTPG	
		151	QRTVISCSSG	SSNIGSNFVY	WYQQLPGTAP	KLLIYRNNQR	PSGVPDRFSA	
		201	SKSGTSASLA	ISGLRSEDEA	DYYCAAWDDR	RVVFGGGTKL	TVLGAAA	

Fig. 10

scFv14	16	1 51 101 151 201	VQLQSGPGL VKPSETLSLT CTVSGGPVAS SSYYWGFIRQ PPKGLEWIG SIYDGGYTY SPILSKRATI SEDTSKNQVS INLTSVTAAD TAVYCAKDP GSLSAFWGQ TLVTVSSGG GSGGGSGGG GSALDIQLTQ SPSSLSASVG DRVITICRTS QRISLYLWY QQKPGKAPKL LIYAASLQGS GVPDRFSGG SGTDFLTIS SLQPEDEFTY YCQOQSYSTPI TEGQGTLEI KRAAA	86
scFv15	17	1 51 101 151 201	LLESGGLVQ PGSLRLSCA ASGTFESSYA MSWVRQAPGK LEWVSAISG SGGTYIADS VKGRFTISRDN NSKNTLYLQM NSLRAEDTAV YYCARDWRWQ QFGWEDPWG RGLTVTVSSG GSGGGSGGG GGSALDVVM TQSPATLSVS PGERVTLSR ASQSVGSKLA WYQKPGQAP RLLIFGTSTR ASGIPARFSG SGSGTEFTLT ISSLQSEDEFA VYQCQYNNW PPTFGQGTK VEIKRAAA	87
scFv16	18	1 51 101 151 201	AEVKKPGDSV KVSCKASGYR FETYGFWSVR QAPGQGLEWM GWINTYNGKT NYAQKEQGRV TMTTDTSTST AYMELRSLRS DDTAVYFCSR AEDDSRGYWN HYFSDYWGRG TTVTVSSGG GSGGGSGGG GSAQSVLTQ PSASGTPGQR VTISCSGSS NIGSNVYVWY QQLPGTAPKL LIHKNRRPS GVPDRFSGSK SGTSASLAIS GLRSEDEADY HCAAWDDSL AVFEGGQTK TVLGAAA	88
scFv17	19	1 51 101 151 201	LESGGLVQ PGSLRLSCA SGTFESSYAM SWVRQAPGKE LEWVSAISGS GGTYIADSV KGRFTISRDN SKNTLYLQMN SLRAEDTAVY YCARDWRWQ FGWEDPWGR GTMTVTVSSG GSGGGSGGG GSALETTLT QSPGTLSP GDRATLSRA SHSVHNHLA WYQNPQAP RLLIFGASSR AAGIPDRFSG SGSGTDFLT ISRLEPEDEFA SYCQYQCS PPTFGQGTK VEIKRAAA	89
scFv18	20	1 51 101 151 201	KPGSSVRVS CKAPGTFGN SAISWVRQTP GQGLEWMMGI IPNFTTANYA QKFGQGRVTIT ADKSTTTAHM ELSSLRSEDY AVYCARGLL GREFDGPSEH SYMEVWKGK TLVTVSSGG GSGGGSGGG GSAQSVLTQ PAASGTPGQR VTISCSGSS NIGSNVYVWY QQLPGAAPKL LIYRNNRPS GVPDRFSGSK SGPSASLAIS GLRSEDEADY YCAAWDDSL GPFEGGQTK TVLGAAA	90
scFv19	21	1 51 101 151 201	VQLVQSGAEV KPGSSVKVS CKASGGTFSS DAISWVRQAP GQGLEWMMGI IPLINIPNYA QKFGQGRVTIT ADKSTTTAHM ELSSLRSEDY AVYCARVNN WNAFDQWGRG TLVTVSSGG GSGGGSGGG GSALSELTO DPAVSVALGQ TVRITCQGD LTSYAAWYQ QKPGQAPLLV FYGDKRPSG IPERFSGSS GNIASLTITG QAEDGDEY CSSRDSGGYR FVFCAGTKLT VLGAAA	91
scFv20	22	1 51 101 151 201	KPGSSVKVS CKASGGTFSS YAIWVRQAP GQGLEWMMGI IPVFGTANYA QKQGRVTIT ADDSMITVYM ELSSLTSEDY GYVYCARDLM RLARRDEYYY YVMDVWQGT MVTVSSGGG GSGGGSGGG SAQSVLTQPP AASGTGQKI TISCSGSSN IGVNVYVWYR QPFGAPHV IYNNDRPSG VPDREFSGKS GTSASLAIS GLRSEDEADY CSTWDDTSLG YIFGVGQTKT VLGAAA	92
scFv21	23	1 51	QPGSLRLSC AASGTFESSY AMSWVRQAPG KGLEWVSAIS GSGGTYIAD SVKGRFTISR DNSKNTLYLQ MNSLRAEDTA VYCARDWRW QQEGGWEDPW	

Fig. 10

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		101	GQGLTVVSS GGGSGGGGS GGGGALSSE LTQDPVAVSA LGQTVRITCQ	93
		151	GDNLRSFSAS WYQLKPGQAP VLVIYKNNR PSGIPDRFSA SSSGNTASLA	
		201	ITGALAEDEA DYYCNSRDSS GNPVFEGTGT KTVVLGAAA	
scFv22	24	1	SSVKVSCKIS GGNLRLTVT WVRQAPGQGL EWWGRILPDS VNQVVKFQRR	94
		51	LKLTSDTSTR TAYLELRSLK SEDTAVYYCA ASSKIGFQVG ELDYWGRCTL	
		101	VTVSSGGGS GGGSGGGGS AQSVVTQPPS ASATPGQRTV ISCSGSSSNI	
		151	GRNYVYVYQQ VPGTAPQLLV YNNQRPSGV PDRFSGSKSG TSASLGISGL	
		201	RSEDEADYYC STWDDSLSSP VFGGTKLTV LGAAA	
scFv23	25	1	TFSSYAMSWV RQAPGKLEW VSAISGGGS TYADSVKGR FTISRDNSKN	95
		51	TLYLQMNLSR AEDTAVYYCA RRRRRERSIN MIRGVRPQVD DSGMDVWGRG	
		101	TLVTVSSGGG GSGGGSGGG GSALSIVLTQ PPSASGTPGH RVTISCSGSS	
		151	SNIGSNVYVW YQQLPCTAPK LLIYRNQRP SGVPDRFSGS KSGTSASLAI	
		201	SGLRSEDEAD YYCAWDDTL SGVLEGGGTK LTVLGAAA	
scFv24	26	1	YAMSWVRQAP GKLEWVSAT SCSGGSTYYA DSVKGRFTIS RDNSKNTLYL	96
		51	QMNSLRAEDT AVYYCARNTG KGITLVRGVY QDCDCRSSTS RMDVWGGQTL	
		101	VTVSSGGGS GGGSGGGGS AQAVLTQPS ASGTPGQRTV ISCSGTSNI	
		151	GRNYVDWYQQ LPGTAPKLLI YRNKRPSGV PDRFSGSKSG TSASLAISGL	
		201	RSEDEADYYC AAWDDSLSGW VEGGTKLTV LGAAA	
scFv25	27	1	GLVQPGGSPR LSCAASGTFE SSYAMSWVRQ APGKLEWVS AISGGGSTY	97
		51	YADSVKGRFT ISRDNSKNTL YLQMNLSRAE DTAVYYCAKD MGYSYGYGTR	
		101	GLFDYWGRTT MVTVSSGGG SGGGGSGGG SAQSVVTQPP SASGAPGQRI	
		151	TISCSGSTFN IGRNYVDWYK QLPGTAPKLE IYKNDQRESG VPDRFSGSKS	
		201	GTSASLVVSG LRSEADYY CLTWDDSLSG PVFEGGKTVT VLGAAA	
scFv26	28	1	ESGGGLVQPG GSLRLSCAAS GTFESSYAMS WVRQAPRGL EWSAISGSG	98
		51	GSTYYADSVK GRTISRDNS KNTLYLQMNS LRAEDTAVYY CARDWRWQOE	
		101	GGWEDEWGRG TTVTVSSGGG SGGGGSGGG GSALETTITQ SPATLSVSPG	
		151	DRATLSCRAS QSIGGNLAWY QOKPGQPPRL LIFGASTRAS GTPARFSGSG	
		201	SGTEFTLTIS SLQSEDFAVY YCQQYNNWPP WTFQGQTRLE IKRAAA	
scFv27	29	1	QPGSLRLSC AASGTFESSY AMSWVRQAPG KGLEWVSAT SGGSTYYAD	99
		51	SVKGRFTISR DNSKNTLYLQ MNSLRAEDTA VYYCAKGDGV VAGTYYIYGG	
		101	MDVWGRGTTV TVSSGGGGSG GGGSGGGGS QSVLTQPPSA SGAPGQRITI	
		151	SCSGSTENIG RNIVDWYKQL PGTAPEKLFY KNDQRESGVP DRFSGSKSGT	
		201	SASLVVSGLR SEDEADYYCL TWDDSLSGEV FGGTKLTVL GAAA	
scFv28	30	1	ASGEGINGYE MHWVRQAPGQ RLEWLGRINA AIGDTYSRE FQDRVSITRD	100
		51	MSANTVYMEN SRLREEDTAV YYCVRFHWR HCNSATCQPP EDHWKGTLLV	
		101	TVSSGGGGSG GGGSGGGGS LSSELTQDPA VSVALGQTVR ITCQDLSLRY	
		151	YSASWYRQKP GQAPVIVMYG NTRRPSGIPD RISGSSGNT ASLTISGAQA	

Fig. 10

scFv29	31	201	EDEADYVCS RDSSGNHLVE GGGTKLTVLG AAA	101
		1	VQPGSLRLS CAASGTFSS YAMSWVRQAP GKGLEWVSAL SGSGGSTYYA	
		51	DSVKGRFTIS RDNSKNTLYL QMNSLRAEDT AVYYCARDHR SGRGGSYLL	
		101	RPLDYWGQGT MVTVSSGGGG SGGGGGGGG SALPVLTPPP SASGTPGQRV	
		151	TISCSGSSSN IGRNIVVWYQ QLPGTAPKLL IYRNNLRPSG VPDRESGSKS	
scFv30	32	201	GTSASLAISG LRSEDEADY CAAWDDTLISG VVEGGGTKLT VLGAAA	102
		1	EVKRGASVK ISCKASGTFE TSYLEFHWVRQ APQRLFWMG WINAGNGNTK	
		51	YSPKFGQGRVT LTGDTSTSTT YMELSLTSE DTAVYYCARD QVFYESGSYY	
		101	IRPSDFWGR GTLVTVSSGG GSGGGGGGGG GGSIDIQMTQS PSTLSASIGD	
		151	RVTITCRASE GIYHFLAWYQ QKPGKAPKLL IYKASSIASG APSRFSGSGS	
scFv31	33	201	GTDFLTISS LQPDDEATY CQOYSNYPIT FGGGTKLTIV LGAAA	103
		1	VRPGSLRLS CAASGETFDD YGMSWVRQAP GKGLEWVSGI NWNNGSTGYA	
		51	DSVKGRFTIS RDNAKNSLYL QINSLRAEDT AVYYCARRRY ALDYWGRGTM	
		101	VTVSSGGGGG GGGGGGGGGG ALSSELTQDP ATVSVALGQT VRITCQGDLS	
		151	DKYYATWYQQ KPGQAPLLVE FSENRPRPSGI PDRFSGSNSG NTASLTITGA	
scFv32	34	201	QAEDEADYYC NSREIGTNRI LFGGTKLTIV LGAAA	104
		1	LVQPGSLRL SCAAAGFTES TFEMNVRQQA PGKLEWVSYS ISGSGHAIYY	
		51	ADSVKGRFTI SRDNANNSLY LQMNSLTAED TAVYYCAREK YQLLLGKYDY	
		101	GMDVWGRGTT VTVSSGGGGG GGGGGGGGGG ALPVLTPPP ASGTPGQRTV	
		151	ISCSGSSSNI GSNTLNWYQQ LPGTAPKLLI YSNDQRPSGV PDRFSGSKSG	
scFv33	35	201	TSASLAISGL QSEDEADYYC AAWDDSLNGW VFGGTKTVTV LGAAA	105
		1	RASGGTSSSS AFSWVRQAPG QGLQWGGII PLFGAANYAQ KVRAGLTITA	
		51	DESTGTSYMK LENLQSDDTA VYFCATNGQT RSPPGYIYGM DVWGRGTLVT	
		101	VSSGGGGGGG GSGGGGGGSAQ SVLTQLPSAS GAPQRITIS CSGSTENIGR	
		151	NYVDWYKQLP GTAPKLFYK NDQRPSGVPG RFSGSKSGTS ASLVVSGLRS	
scFv34	36	201	EDEADYYCLT WDDSLSGPVF GGGTKLTVLG AAA	106
		1	ACKGFGYTFV DHGISWVRQA PGQGLEWMGW INTDGHNTNY AQKTQARLTM	
		51	TTDASINTSY MELRSLTSDD TAVYYCARGG ETRTAHRSSR ATNDNGYPY	
		101	SSGLDVWGQG TLVTVSSGGG GSGGGGGGGG GSAQAVLTQP SSASGTPGQR	
		151	VTISCSGSSS NIGSNVYVWY QQLPGTAPKL LIYRNNQRPS GVPDRFSGSK	
scFv35	37	201	SGTSASLAIS GLRSEADY YCAAWDDSLS GWVEGGGTKL TVLGAAA	107
		1	PGASVKVSKC ASGYTFTSY MHWVRQAPGQ GLEWMMGIINP SGGSTSYAQK	
		51	FQGRVTMTRD TSTSTVYNEL SSLRSEDYAV YYCARGSGAR MVRGVIIDPY	
		101	GMDVWGRGTL VTVSSGGGGG GGGGGGGGGG AQSVLTQPPS ASGTPGQRTV	
		151	ISCSGSSSNV GSNVSWYQQ FPGTAPKLLI YRNNQRPSGV PDRFSGSKSG	
scFv35	37	201	ISASLAISGL RSEDEADYFC VAWDDSLREY VFGTGTCTVTV LGAAA	107
		1	ISASLAISGL RSEDEADYFC VAWDDSLREY VFGTGTCTVTV LGAAA	
		51	ISASLAISGL RSEDEADYFC VAWDDSLREY VFGTGTCTVTV LGAAA	
		101	ISASLAISGL RSEDEADYFC VAWDDSLREY VFGTGTCTVTV LGAAA	
		151	ISASLAISGL RSEDEADYFC VAWDDSLREY VFGTGTCTVTV LGAAA	

Fig. 10

scFv36	38	1 51 101 151 201 ESGGGLVQPG GSLRLSCAAS GFTFSSYAMS WVRQAPGKGL EWYSAISGSG GSTYADSVK GFTISRDN KNTLYLQWNS LRAEDTAVYY CAKGGTRVTH RGGEDIWGRG TMVTVSSGGG GSGGGSGGG GSALPVLTOP PSASGAPGQR ITISCSGSTF NIGRNYVDWY KQLPGTAPKL FTYKNDQRPS GVPDFRFGSK SGTSASLVVS GLRSEDEADY YCLTWDDSL S GPVEGGGTKL TVLGAAA	108
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Fig. 10

Ref:	SEQ ID No.	Nucleotide Sequence
scFv1	3	<p>1 GAGGTCCAGCTGCAACAGTCTGACCTGAGTGGTGAAGCTGGGGCTTTAGTGAAGATATCCTGCAAGG</p> <p>71 CCTCGGATACACCGTCAACAGTACGATATAAACTGGGTGAAGCAGAGCGCTGGACAGGACTTGGAGTG</p> <p>141 GATTGGATGGATTATCCTGGAGATGGTACTAAGTACAATGAGAATTCAGGGCAAGGCCACACTG</p> <p>211 ACTGTAGACAAATCCTCCACACAGTCTACATGACCTCAGCAGCCCTGACTTCTGAGAACTCTGCACTCT</p> <p>281 ATTTCTGTGCAAGAGGTGTAATACTTTGACTACTGGGGCAAGGCCACTCTCAGAGTGTGACAGG</p> <p>351 TGGAGCGGTTTCAGGCGGAGGTGGCTCTGGCGGTGGCGGAAGTGCATCGACATTTGTGATGACACAGTCT</p> <p>421 CCAAAATTCATGTCCACATCAGTAGGAGACAGGGTCAGCGTCACCTGAAGGCCAGTCAGAATGTGGCTA</p> <p>491 CTAATGTAGCCTGGTATCAACAGAAACCCAGGCCAATCTCCTAAACCACTGACTTACTCGGCATCCTTCCG</p> <p>561 GTCCAGTGGAGTCCCTGATCGCTTCACAGGAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAAT</p> <p>631 GTGAGTCTGAAGACTTGGCAGAGTATTTCTGTACAGCAATATAACAGCTATCCGTACACGTTCCGAGGGG</p> <p>701 GGACCAAGCTGGAATAAAAGCGCGCAGGTGCGCGGTGCCGTATCCAGATCCGCTGGAACCGCGGTGG</p> <p>771 GCGCGCAAGCGCTTGAGCCACCCGCGAGTTCGAAAATAA</p>
scFv2	4	<p>1 GAGGTGCAGCTGTGTGAGTCTGGGGGAGGCTTGGTACAGCTGGGGGTCCCTGAGACTCTCCTGTGCAG</p> <p>71 CCTCTGGATTACACTTTAGCAGCTATGCCATGAGCTGGTCCGCCAGGCTCCAGGAAGGGGCTGGAGTG</p> <p>141 GGTCTCAGCTATTAGTGGTAGTGGTAGCACATATACGACAGACTCCGTGAAGGCCCGGTTCAACATC</p> <p>211 TCCAGAGACAAATCCAAGAACACCGCTGTATCTCAATGAACAGCTGAGAGCCGAGGACACGCGCGTGT</p> <p>281 ATTACTGTGCGGAGACTCGGGCTACAGAGGACCCCGCCGGAAGGGGCCCCGAGTAAATTTCTCCTA</p> <p>351 CTACGGTCTGGAGCTCTGGGGCGGGGACACGGTCACTCCGTCTCGATGGAGGCGCGGTTTCAGGCGGA</p> <p>421 GGTGGCTCTGGCGGTGGCGGAAGTGCACAGCTGTGCTGACTCAGCCGTCTCAGGCTCTGGGACCCCGG</p> <p>491 GGACAGGGTCAACATCTCTGTCTGGAAGCAACTCCAACATCGGACGCAATTTATGTATTCTGTGTACCA</p> <p>561 GCAGTCCCAGGAACGGCCCCAAAATCCTCATCTACAGGAACAATCAGCGGCCCTCAGGGTCCCTGAC</p> <p>631 CGATTCTCTGGCTCCAAGTCTGGCACATCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGG</p> <p>701 CTGATTATTACTGTGATCATGGGATGACAGCCTGACTTGGGTGTTCCGGCGGAGGACCAAGGTCAACCT</p> <p>771 CCTAGGTGCGCGCGCAGGTGCGCGGTGCGGTATCCAGATCCGCTGGAACCGCGTGGGGCCCGAAGCGCT</p> <p>841 TGGAGCCACCCGCGAGTTCGAAAATAA</p>
scFv3	39	<p>1 GGGCCTCAGTGAAGGTCTCTGCAAGACTCTGGATACACCTTCAATCGCCTATTATATTCTTGGTGGC</p> <p>71 ACAGGCCCTTGACAAAGGCTTGAAGTGGACGGATCAACCCTAACACTGGTGGCATAAACCTTGCA</p> <p>141 CAGAAGTTTCAGGCGAGGTCACCGTGACAGGACAGCTCCATCAGCACAGCCCATGGAGCTGAGTA</p> <p>211 GGCTGAGCTCTGACGACACCGCCCGTATCTACTGTGAGAGAGAGAGATCGTACAGCTGGTCTGAGGAA</p> <p>281 CCGTGGATGTGACTGCGGTGGAATGGACGCTCTGGGGCGGGGAACCCCTGTCACCGTCTCGAGTGA</p> <p>351 GCGGCGGTTTCAGGCGGAGGTGGCTCTGGCGGTGGCGGAAGTGCAGTCTGTCTGACGCGAGCGCCCT</p> <p>421 CAATGTCTGGACCCCGGCGAGAGGTCACCATCTCTTGTCTGGAGGAGGTCACCAATTTGGAAGGAA</p> <p>491 TTATGTATCTGGTACAGCAGTTCAGGAACCGGCCCAAACTCTCATTTATAGGAATAATGAACGG</p> <p>561 CCCTCAGGGGTCCCTGACCGATTCTCTGCCTCCAAGTCTGGCACTCAGCCTCCCTGGCCATCAGTGGAC</p>

Fig. 11



scFv4	40		631 TCCGGTCCGAGGATGAGGCTGATTATTACTCGGCAACGCTGGGATGACACTCTGAGTGGGACTTGGGTGTT
			701 CGCGGAGGGACCAAGCTGACCGTCTAGGTGCGGCCGC
scFv5	41		1 CTGTTGGAGTCTGGGGAGGCTTGGTACAGCTGGGGGTCCCTGAGACTCTCCTGTGCAGCCTCTGGAT
			71 TCACCTTTAGCAGCTATGCCATGAGCTGGTCCGCCAGGCTCAGGGAAGGGGCTGGATGGGTCTCAGC
			141 TATTAGTGGTAGTGGTAGCACATACTACGCAGACTCCGTGAAGCGCGGTTCCACCATCTCCAGAGAC
			211 AATTCCAAGAACACGCTGTAICTCAATGAACACCTGAGAGCGGACACAGCCCGTGATTACTGTG
			281 CGAGAGTGGGGGCGGATATGATAGTAGTACACGGCTTGACTCTCTGGGCGGGGACAAATGGTCACCGT
			351 CTCGAGTGGAGGCGCGGTTACGGCGGAGTGGCTCTGGCGGTGGCGGAAGTGCACTTCTCTATGAGCTG
			421 ACTCAGCCACCTCAGTGTGGTGGCCCCAGAGAGAGCGGCCACAAATACCTGTGGGGACGCGACCTTG
			491 GCTCAAAAGTTGTGATTGGTATCAGCAGAGCCAGGCCAGGCCCTACATTGGTCATTATTATGATTTC
			561 CGTCGGCCCTCGGGGTCCTGAGCGATTCTCTGCCCAACTCTCGGTGTGGGCCACCTTGACCGTC
			631 AGCAGGTCGAAGCCGGGATCAGGCCGACTATTATTGTCAAGTGTGGGATAGAAGTAGTGACCAATTATG
			701 TCTTCGGAACCTGGGACCAAGCTGACCGTCTAGGTGCGGCCGC
scFv6	42		1 CAGCTGTTGGAGTCTGGGGAGGCTTGGTACAGCTGGGGGTCCCTGAGACTCTCCTGTGCAGCCTCTG
			71 GATTACCTTTAGCAGCTATGCCATGAGCTGGTCCGCCAGGCTCAGGGAAGGGGCTGGATGGGTCTC
			141 AGCTATTAGTGGTAGTGGTAGCACATACTACGCAGACTCCGTGAAGCGCGGTTCCACCATCTCCAGA
			211 GACAAATCCAAGAACACGCTGATCTGCAATGAACACCTGAGAGCGGACACAGCCCGTGATTACT
			281 GTGCGAGATTGGAGATGGCAACAATTTGGGGCTGTTCCACCTCGGGCGGAGAACCTTGGTCAC
			351 CGTCTGAGTGGAGGCGCGGTTGAGGCGAGGTGGCTCTGGCGGTGGCGGAAGTGCACTTGAACGACA
			421 CTACGCGAGTCTCTGCCACCTGTCTGTCTCCAGGGAACAGCACCCCTCTCTGCAGGGGCGAGTC
			491 AGAGTGTAGGAACAACCTTAGTCTGGTACAGCAGAAAGCTTGGCCAGGCTCCAGACTCCTCATCTTTGG
			561 TGCAATCCACAGGCGCAGTGCGCATCCACAGGTTCACTGGCAGTGGGTCTGGGACAGACTTCACTCTC
			631 ACCATCACCAACTGGAGCTGAGGATTTGCACTGATTACTGTCAAGCGGTATGGTGGTTTCCCGATCA
			701 CCTTCGGCCCAAGGACACGACTGGAGATTAAACGTGGGCCCGC
scFv7	43		1 CAGCTGGTGCAGTCTGGGGAGGCTTGGTGCAGCCGGGGGTCCCTGAGACTCGCTGTGAAGCCTCTG
			71 GATTACGTTTAGCAGCTATGGCATGAGCTGGTCCGCCAGGCTCCAGGGAAGGGGCTGAGTGGGTCTC
			141 TTCCATGAGCGATAGTGGTGCCAATACATACTACGCAGACTCCGTGAAGCGCGGATTCCACCATCTCCAGA
			211 GACAATGCCAAGAAAGATGTTGATCTACAAATGAGCAGCCTGAGAGCGGAGGACAGCCCGTGATTACT
			281 GTGCGACTCTCTTTAGGGGAAGTGGTACGTTCGTCACTGGGGCAGGGGAACCTTGGTCACCGTCTCGAG
			351 TGAGGCGGCGGTTGAGGCGAGGTGGCTCTGGCGGTGGCGGAAGTGACAGGCTGTGTGACTCAGCCG
			421 TCTCAGCGTCTGGGACCCCGGCGAGAGGTCATCTCTTGTCTTGAAGCAGCTCCAACATCGCAA
			491 GTAATTATGTATCTGTTACAGCAACTCCAGGAAGCGGCCCAAACTCTCATCTCTAAGAAATGTCG
			561 GCGGCCCTCAGGGTCCCTGACCGATTCTCTGGTCTCAAGTCTGGACCTCAGCCTCCCTGGCCATCAGT
			631 GAACTCCGTCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGGCTGAGTGGTCCGGCAT
			701 TCGGCGGAGGACCAAGCTGACCGTCTAGGTGCGGCCGC
scFv7	43		1 AAGAAGCCTGGTCTCTGGTGAAGTCTCTCTCAAGGCTTCTGGAGGCACCTTCAGCAGTTATGCTATTA
			71 GTTGGGTGCGACAGGCCCTGGACAAGGCTTGAGTGGATGGGAGGGATCATTCCTATGTCTGGTACACC

Fig. 11

		<p>141 A A A T A C G C A C A G A A G T T C C A G G A C A G A G T C A C G A T T A C C G G G A C A A T C C A C G A C A C A G C C T A C A T G</p> <p>211 G A G C T G A G C A G C C T G A G A T C T G A G G A C A C G G C C G T A T T A C T G T G C A G G G G G G C G T A C G T T G A C T</p> <p>281 T C G G T C G T G G C C C T T C G T A C C A C T A C T A C A T G G A C G T C T G G G C G G A G A A C C C T G G T C A C C G T C T C</p> <p>351 G A G T G G A G G C G G G T T C A G G C G G A G G T G C T T G C G G T G G C G G A G T G C A C A G T C T G T T G A C G C A G</p> <p>421 C G C C C T C A G C C T G G G A C C C C G G A C A G A G G T C A C A T C T C T T G T T C T G G G C C A C C T C C A A C A T C G</p> <p>491 G A A G G A A T T A T G T T A C T G G T A C C A C C A A C T C C A G G A C G G C C C C A A G C T C T C A T C T A T A G G A A T G A</p> <p>561 T C A G C G T C C C T C A G G G T C C C T G A C C G A T T C T G G G T C C A A G T C T G G C A C C T C A G C C T C C C T G G C C A T C</p> <p>631 A G T G G C C T C C G G T C C G A C G A T G A G C T G A T T A T T A C T G T G C T G G T G G G A C G A C A C C T G A G T G G T C T A T</p> <p>701 T T T T C G G C G G A G G A C C A G C T G A C C G T C C T A G G T G C G G C C G C</p>
scFv8	44	<p>1 G C C A G G T G C A G C T A C A G C A G T G G G C C C A G G A C T G G T G A A G G C T T C G G A G A T C C T G T C C C T C A C T G C A</p> <p>71 C T G T C T C T G T A G C T C C C T C A G C A G T G G T G G T T A C T A C T G A G C T G G A T C C G C C A G C A C C C A G G A A G G G</p> <p>141 C C T G G A G T G G A T T G G T A C A T C C A T T A C A G T G G A G C A C G T A C T A C A A C C C G T C C C T C A A G A G T C G A G T T</p> <p>211 A C C A T A T C A G T A G A C A C G T A A G A A C C A G T T C T C C T G A A G C T G A G C T C T G A C T G C C G G A C A C A C G G</p> <p>281 C T G T G A T T A T T G T G C G A G A T T C C G T T G A G A T T T G A T G T T T G A T G T C T G G G C C A A G G C A C C C T G G T</p> <p>351 C A C C G T C T C A G T G G T G G A G G C G G T C A G G C G G A G T G G C A G C G G G G T G G G A T C G G A C A T C C A G A T G</p> <p>421 A C C C A G T C T C C T T C C A C C T G T C T G C A T C T A T T G G A G A C A G A T C A C C A T C A C C T G C C G G C C A G T G A G G</p> <p>491 G T A T T A T C A C T G G T T G C C T G G T A T C A G C A G A A G C A G G A A A G C C C T A A A C T C C T G A T C T A T A A G G C</p> <p>561 C T A G T T A G C C A G T G G G C C C C A T C A A G G T T C A G C G G C A G T G A T C T G G A C A G A T T T C A C T C T C A C C</p> <p>631 A T C A G C A G C C T G C A G C C T G A T G A T T T G C A A C T T A T T A C T G C C A A C A A T A T A G T A A T T A T C C G C T C A C T T</p> <p>701 T C G G C G G A G G A C C A A G C T G G A G A T C A A A C G T G C G G C G C</p>
scFv9	45	<p>1 C T G A G C T G A A A A G C C T G G G T C C T C G G T A A A G G T C T C T G C A A G G C T C C T A G A G G C A C C T T C A A C A G T T A</p> <p>71 T G C T C T C A A C T G G G T C G A C A G C C C C T G G A C A A G G C T T G A G T G A T G G A G G A T C A T C C C T A T T T T T</p> <p>141 G G T A G T G C A A A T T A C G A C C G A A G T T C C A G G G C A G A G T C A C C A T T A C C G G G A G A A T C C A C G A C C A C A G</p> <p>211 C C T A C T T G G A G C T G A C A G C C T G A G A T C T G A G G A C A C G C C C G T A T A T T A C T G T G C G C G A G C T C C C A T T T</p> <p>281 G G A T T A C G T T G G A G A C T A T A A T T A C T A C T T T G A C A A C T G G G G A A A G G A C A A T G G T C A C C G T C T C G</p> <p>351 A G T G A G G C G C G G T C A G C G G A G T G G C T C T G C C G G T G C G G A G T G C A C T T T C T T C T G A G C T G A C T C</p> <p>421 A G G A C C C T G C T G T C T G T G C C T T G G A C A G A C A C A G T C A G G A T C A C A T G C C A G G A G A C A G C C T C A G A A G</p> <p>491 T T A T T A T G C A G C T G G T A C C A G A A G C C A G A C A G C C C C T G C C T T G T C A T C T A T G T A A A A A T A G T</p> <p>561 C G G C C C T C A G G A T C C C A G A C C G A T T C T G G C T C C G A C T C A G A A A C A C A G C T T C C T T G A C C A T C A C T G</p> <p>631 G G G C T C A G G G A A G A T G A G G C T G A C T A T T A C T G A A C T C C C G G A C A G A A G T G G T A A C C G C G T G G T C T T</p> <p>701 C G G C G A G G A C C A A G C T G A C C G T C C T A G G T G C G G C G C</p>
scFv10	46	<p>1 T C C C T G A G A C T C T C C T G T G C G G C C T C T G G A T T C A C C T T T A G C A G T A T G C C A T G A G C T G G T C G G C C A G G</p> <p>71 C T C C A G G A A G G G C T G G A G T G G G T C A G C T A T T A G T G G T A G T G G T A G C A C A T A C T A C C A G A C T C</p> <p>141 C G T A A G G C G G G T T C A C C A T C T C C A G A C A A T T C C A A G A C A C G C T G T A T C T G C A A A T G A A C A G C C T G</p> <p>211 A G A C C G A G A C A C G G C G T A T T A C T G T G C G A G G G G T A C G T A T C A C T A T G A C C A T G A C A G G C G T G</p> <p>281 G T G T A C C G C C A A T A T A T A A C C A C G T T T G G A C G T C T G G G G A G G G G A C C A C G G T C A C C G T C T C G A G</p>

Fig. 11

		<p>351 TGGAGGGCGGGTTTACGGGAGGTGGCTCTGGCGTGGCGGAAGTGCACAGGCTGTGCTGACTCAGCCG</p> <p>421 TCCTCAGCGTCTGGACCCCCGGGACAGAGGTACCATCTCTTGTCTTGGAGGAGTCCAACTATCGGAA</p> <p>491 AGAATTATGTATCTAGTATCAGCAGCTCCAGGACGGCCCCCAACTCTCATCTATAGGAATAATCA</p> <p>561 GCGGCGCTCAGGAGTCCCTGACCGATTCTCTGGCTCAAGTCTGGACCTCAGCCTCCCTGGCCATCAGT</p> <p>631 GGGCTCCGCTCCGAGGATGAGGCTGATATTATTGTGCGGCACGGGATAACGGGCTGAGTGTATGTGA</p> <p>701 TATTCCGCGGAGGACCAAGCTGACCTCTAGTGGGCGCGG</p>
scFv11	47	<p>1 AGGTGAAAAGCCCCGGGGAGTCTCTGAAGATCTCTGCAAGGTTCTGGATACAGCTTTCCCAACTACTG</p> <p>71 GATCGCCTGGGTGGCGCCAGATGCCGGGAAAGCCCTGGAGTGGATGGGATCATCTATCTCTGTGACTCT</p> <p>141 GATACTATATACAGCCCGCTCTCCGAGGCCAGGTCAACCATCTCAGCCGACAAAGTCCATCAGCACCGCCT</p> <p>211 ACCTGCAGTGGAGCAGCCTGAAGCCCTCGGACACCGCATGTATTACTGTGCGAGACAGGGTGTAGTGG</p> <p>281 TGGTAAATGCTACGAGAAATGTATGCTTCTGATATCTGGGCAAGGGAAACCTGGTCAACGCTCTCGAGT</p> <p>351 GGAGCGCGGCTTACGCGGAGGTGGCTCTGGCGTGGCGGAAGTGCACCTTCTATGAGTCACTCAGC</p> <p>421 CACCCTCAGCGTCTGGGACCCCGGAGAGGTCACCATCTCTTGTCTGGAAGCAGTCCCAACATCGG</p> <p>491 AAGGAATTCTGTATTTTGGCACCAAGAGTTACAGGAACGGCCCCCAAGTCCCTCATCTCTTCTGTATAAT</p> <p>561 CAGGACCCCTCAGGGTCTCTGACAGATTCTCTGGTCCGACTCTGGCACCTCAGCCTCCCTGGTCAATCA</p> <p>631 GTCGCTCCGCTCGAAGATGAGGTGATTACTACTGTGAGCATGGGATGACAGTCTGAGTGTATGT</p> <p>701 CTTCCGAAGTGGGACCAAGCTGACCGCTCTAGTGGGCGCGG</p>
scFv12	48	<p>1 GGGTGAAGTGAAGAAGCTGGTCTCGGTGAGGTCTCTCTCAAGGCTTCTGGAGACACCTTCAGCTA</p> <p>71 CAATGCTATCAACTGGTTCGACAGGCCCCCTGGACAGGGCTTGAAGTGGAGGGATCAATCCCTATG</p> <p>141 TTTGGTACAGAAAGCAGCAGAGTTCAGAGCAGAGTACAGTTTACCGGGACGAATCCACGAGCA</p> <p>211 CAGCCTACATGGAGTTGACTAGGTGAGATCCGAGACACGGCATGTATTACTGTGCGGACGGGGCTC</p> <p>281 GTACAGTAATTACGAGGGGGTATTACTATACATGGACGCTGCGGGCCAGGAACCCCTGGTCAACGTC</p> <p>351 TCGAGTGGAGCGCGGTTACGGCGGAGGTGGCTCTGGCGGTGGCGGAAGTGCATCCCTGTGTGCTGACTC</p> <p>421 AGCCACCCCTCAGCGTCTGGGCCCCCGGCGAGAGATCACCATCTTGTTCGGAAGCACCTTCAACAT</p> <p>491 CGGGAGAAATTATGTTGACTGATAAACAACCTCCCGGAACGGCCCCCTAAACTCTTCACTATAAGAAT</p> <p>561 GATCAGCGACCTCAGGGTCCCTGACCGATTCTCTGGCTCCAAAGTCTGGCACCTCAGCCTCCCTGGTCCG</p> <p>631 TAAAGTGAATCCGCTCCGAGGATGAGGCTGATTATTACTGTCTGACTTGGGATGACAGCCTGAGTGGTCC</p> <p>701 GGTGTTCCGCGGGGGACCAAGCTACCGTCTCTAGTGGGCGCGG</p>
scFv13	49	<p>1 GCTGCAGGAGTCCGGCCAGGACTGGTGAAGCTTTCGGGGACCTGTCCCTCACTGGCTGTCTCTGGT</p> <p>71 GGCTCCATCAACAATAATAATTGGTGAAGTGGTTCGCCAGCCCCCAGGAGGGGCTGGAGTGGATTG</p> <p>141 GGGAAATCTATCAGAGTGGGAGCACCAACTACACCCGTCCTCAAGAGTCCAGTCAACATATCAGTAGA</p> <p>211 CAAGTCCAAACACCACTTCTCCCTGAGATGAGTCTGTGACCCCGCGGACACGGCCGTGATTACTGT</p> <p>281 GCGAGGCTTAACCTGGAACACCGGCCCTACTACGGTATGGACGCTTGGGCGAGGGCACCCCTGGTCAACG</p> <p>351 TCTCGAGTGGAGGCGCGGTTTCAAGCGGAGGTGGTCTGGCGGTGGCGGAAGTGCACAGTCTGTGCTGAC</p> <p>421 GCAGCGCCCTCAGCGTCTGGGACCCCGGACAGAGAGTCAACATCTCTTGTCTTGGAGCAGCTCCAAC</p> <p>491 ATCGGAAGTAATTTTGTATACTGTTACAGAGTCCCGAGGAGTCCCGAGGAAGCCCCCAACTCTCATCTATAGGA</p> <p>561 ATAATCAGCGGCGCCTCAGGGGTCCCTGACCGATTCTCTGCCTCCAAGTCTGGCACCTCAGCCTCCCTGGC</p>

Fig. 41

10/539402

scFv14	50	631 CATCAGTGGGTCGGTCCGAGGATGAGGCTGATTATTACTGTGCGGCATGGGATGACAGGCGTGTGGTA 701 TTCGGCGGAGGACCAAGCTACCGTCTTAGTGGCGCGC
		1 GGTGAGCTGAGGAGTCCGGCCAGGACTGGTGAAGCTTCGGAGACCTGTCCCTCACCTGCATGTCTC 71 TCTGGCGGCCCGCTCGCCAGTAGTAGTACTACTGGGCTTCATCCGCCAGCCCCCAGGAAAGGGCTGG 141 AGTGGATTGGGAGTATTATGATGGTGGTACACCTACTACAGCCCTCCCTAAGAGTGCAGTACCAT 211 ATCCTTCGACACGTCCTCAAGAACAGGTCTCCCTGAACCTGACCTCTTTACCGCCGGGACACGGCCGTC 281 TATTACTGTGCGAAAGACCCGGGCGAGTTTGGCGCCCTCTGGGGCCAGGAAACCTTGGTCAACCGTCTCGA 351 GTGAGGCGGCGGTTGAGCGGAGGTGGCTGTGGGCTGGCGGAGTCACTTGGCGGACAACTCAGGTCATT 421 GTCTCCATCCCTCCCTGTGCTGTGTAGAGACAGACTCACTTGGCGGACAACTCAGGTCATT 491 AGCAGCTATTTAAATTTGGTATCAGCAGAACCCAGGAAAGCCCTAAGCTCCTGATCTATGCTGCATCCA 561 GTTTGCAAGTGGGGTCCCATCAAGTTCAAGTGGCAGTGGTCTGGGACAGATTTCACTCTCACCATCAG 631 CAGTCTGCAACCTGAAGATTTTGCACTTACTACTGTCAACAGAGTTACAGTACCCCGATCACCTTCGGC 701 CAAGGACACGACTGGAGATTAAACGTGGCGCGCGC
scFv15	51	1 CTGTTGAGTCTGGGGAGGCTTGGTACAGCTGGGGGTCCCTGAGACTCTCCTGTGCAGCCTCTGGAT 71 TCACCTTTAGCAGCTATGCCATGAGCTGGGTCCGCCAGGCTCCAGGAAAGGGTGGAGTGGTCTCAGC 141 TATTAGTGGTACTGGTGGTAGCACATATACGACAGTCCGTGAAGGCCCGTTACCATCTCCAGAGAC 211 AATTCCAAGAACACGCTGATCTGCAATGAACAGCCTGAGAGCCAGGACACGGCCGTGTATTACTGTG 281 CGAGAGATTGAGATGGCAACAATTTGGGGTGGTTCGACCCCTGGGCGAGGACCCCTGTGTCAACCGT 351 CTCGAGTGGAGCGCGGTTGAGCGGAGGTGGTCTGGCGGTGGCGGAAAGTGCATTTGATGTGTGATG 421 ACTCAGTCTCCAGCCACCTGTCTGTGTCTCAGGGAAAGAGTCAACCTCTCCTGCAGGGCCAGTCA 491 GTGTTGGCAGCAAGTTGGCTGTGTACAGCAGAACTGGGCGAGGTCCTCAGGCTCTCATCTTTGGTAC 561 ATCGACCGGCGGAGTGGTATCCAGCCAGGTTTCACTGGCAGTGGTCTGGGACAGAGTTCACTCTCAAC 631 ATCAGCAGCCTGCAGTCTGAAGATTTTGCAGTTTATTAAGTGTGACAGATATAATACTGGCCCTCCGTACA 701 CTTTGGCCAGGCGACCAAGTGGAAATCAACGTCGGCGCGC
		1 GCTGAGGTGAAGAAGCTGGGACTCAGTGAAGTCTCCTGCAAGCCTCTGTTACAGGTTTGAACCT 71 ATGGTTTCAGCTGGGTGCACAGGCCCTGGACAAAGGCTTGAAGGATGGGATGGATCAACACTTACAA 141 TGGTAAGACAAATATGCACAGAAGTTCCAGGGCAGAGTCACTATGACACAGACAGTCCACAGACACA 211 GCCTACATGAGTGGAGCCCTGAGATCGGACGACACGGCCGTGTATTTTTGTTCGAGAGTGAAGATG 281 ATAGCAGAGGTTATTGGAACCATTAATCTCCGACTACTGGGGAGGGGACACGGTCAACGCTCTCGAG 351 TGGAGGCGGCGGTTCAAGCGGAGGTGGTCTGGCGGTGGCGGAAAGTGCAGTGTGTGACTCAGCCA 421 CCTCAGCGTCTGGGACCCCGGAGAGGTTCAACATCTCTTTGTTCTGGAAGCAGCTCCACATCGGAA 491 GTAATTATGTATCTGTTACAGCAGTCCAGGAGGCGCCCAAACTCCTCATCCATAGATAATCG 561 GCGGCCCTCAGGGGTCCCTGACCGATTCTCTGGTCCAAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGT 631 GGGCTCCGTTCCGAGGATGAGGCTGATTATCACTGTGACGCTGGGATGACAGCCTGAGTGTGTGTTT 701 TCGGCGGAGGACCAAGTCAACGCTCTAGGTGGCGCGCGC
scFv17	53	1 TTGGAGTCTGGGGAGGCTGGTACAGCCTGGGGGTCCCTGAGACTCTCCTGTGCAGCCTCTGGATTCA 71 CCTTTAGCAGCTATGCCATGAGCTGGTCCGCCAGGCTCCAGGAAAGGAGCTGGAGTGGTCTCAGCTAT

Fig. 11

scFv18	54	141	TAGTGGTAGTGGTGGTAGCACATACACTACGAGACACTCCGTGAAGGGCCGGTTACCACTCTCCAGAGACAAT
		211	TCCAAGAACACCGTGTATCTGCAAAATGAACAGCCTGAGAGCCGAGGACGCGCGGTGTATTACTGTGCGGA
		281	GAGATTGGAGATGGCAACAATTTGGGGCTGGTTTCGACCCCTGGGCGGAGGACATGGTCAACCGTCTC
		351	GAGTGGAGCGCGCGGTTACGGCGGAGGTGGCTCTGGCGGTGGCGGAAGTGCATTTGAAACGACACTCAGG
		421	CAGTCTCCAGGCAACCTTAGCCTGGTACCAAGAAATCCTGGCCAGGCTCCAGGCTCCTCATTTTGGTGC
		491	TTAGTCACAACCACTTAGCCTGGTACCAAGAAATCCTGGCCAGGCTCCAGGCTCCAGGCTCCTCATTTTGGTGC
		561	ATCCAGCAGGCGCGCTGGCATCCCTGACAGGTTCAGTGGCAGTGGGTGGGACAGACTTCACCTCTCACC
		631	ATCAGCAGACTGGAGCCTGAAGATTTTGCAATCATATTACTGTACAGCATGGTATGGTACGCCCGCGGACGT
		701	TCGGCCAAGGACCAAGGTGGAATCAACGTGCGGCGCG
		1	GAAGAAGCCTGGTCTCGGTGAGGTCTCTGCAAGGTCTCTGGAGCACCTTCGGCAACTCTGCTATC
scFv19	55	71	AGCTGGGTGGACAGACCCCTGGACAAGGCTTGAGTGGATGGAGGAATCATTTCTATGTTTACTACAG
		141	CAAACTACGCACAGAAGTTCAGGGCAGGTACCATTACCCTGGGACAAATCCACGACACACAGCCACAT
		211	GGAGCTGAGCAGCCTGAGATCTGAGGACACGGCCGTCTATTACTGTGCGAGAGGCGGACTGGGACGATTT
		281	TTTGACGGCCCTCCCACTTCTCTACTACATGAAGTCTGGGCAAGGAACCTGGTCAACCGTCTCGA
		351	GTGAGGCGCGGCTTCAGGCGGAGGTGGCTCTGGCGGTGGCGGAAGTGCACAGTCTGTGCTGACGAGCC
		421	GCCGAGCAGCTCTGGGACCCCGGCGAGAGGTCACCATCTCTTGTCTGGAAGCAACTCCAACATCGGA
		491	AGAAATATGTACTGTGATFCAGCAGCTCCAGAGCGGCCCCCAAACTCTCTATCTATAGGAATAATC
		561	AGCGGCCCTCAGGGGTCCCTGACCGATTCTCTGGTCCCAAGTCCGGCCCTCAGGCTCCCTGGCCATCAG
		631	TGGGCTCCGTCGAGGATGAGGCTGATTATTACTGTGACAGCATGGGATGACAGCTGAGTGGCCCTGCA
		701	TTCCGCGGAGGACCAAGCTGACCGTCTCTAGGTGCGGCGCG
scFv19	55	1	AGTCCAGCTGGTACAGTCTGGGGCTGAGTGAAGAGCTGGTGGTCTCGTGAAGTCTCTGCAAGGC
		71	TTCTGGAGGCACTTCAGCAGCGATGCTATCAGCTGGTGGCGACAGGCCCTGGACAAGGACTTGAGTGG
		141	ATGGGAAGGATCATCCCTCTAATTAATATACCAAACTACGCACAGAACTCCAGGCGAGAGTCAAGATTA
		211	CCGCGGACAAATCCACGACACAGCCTACATGGAGCTGACCAAGCCTAAAGATTTGAGGACGCGGCGGTGA
		281	TTACTGTCCGAGTGAATAACTGGAACGCTTTGACAGTGGGCGGGAAGTGCATTTCTTCTGAGTGACTC
		351	AGTGGAGGCGCGGTTACGGCGGAGTGGCTCTGGCGGTGGCGGAGTGCATTTCTTCTGAGTGACTC
		421	AGGACCCCTGCTGTCTGTGGCTTGGACAGACAGTCAAGATTACATGCCAAGGAGACACCCCTCACAAG
		491	TTATTATGCGGCTGGTACCAGCAGAAGCCAGGACAGGCCCCCTCTGTCTTCTATGGTAAAGACAAG
		561	CGGCCCTCAGGATCCAGAGCGATTCTCTGGCTCCAGCTCAGGAATAATTGCTTCTCTTGACCATCAGT
		631	GGGCTCAGGCGGAGGATGAGGCTGACTTTTACTGTAGTCCCGGACAGCAGTGGGTACCGTTTGTCTT
		701	CGGGCTGGGACCAAGCTGACCGTCTCTAGGTGCGGCGCG
scFv20	56	1	GAAGAAGCCTGGTCTCGGTGAAGTCTCTGCAAGGCTCTGAGGCGACCTTCACCAGCTATGCAATC
		71	AGTTGGTGGACAGGCGCTTGACAAAGGCTTGAGTGGATGGAGGTTTCATCCCTGTATTGGCACAG
		141	CAAACTACGCACAGAAGTTCAGGGCAGAGTCAAGTACCCGCGGAGATTCATFACCAACAGTGTACAT
		211	GGAGCTGAGTAGCCTGACCTCTGAAGACAGGCGGTGATTACTGTGCGAGAGATCTCATCGCGGTGGCC
		281	CGTCGCGATGAATACTACTATTACTACATGGACGTCTGGGGCCCAAGGACAAATGGTCAACCGTCTCGAGTG

Fig. 11

scFv21	57	<p>351 GAGCGCGGGTTAGCGGAGGTGGCTCTGGCGGTGGGGAAGTGACAGTCTGTGCTGACTCAGCCACC</p> <p>421 CGCAGCGTCTGGACCTACGGCAGAAAGATCACCATCTCTTGTCTGGAAGCAGTCCCAATATCGAGTT</p> <p>491 AATTATGTTTACTGGTACCGGCAATCCAGGAGCGGCCCCACGTCGTCTATATAATAATGATCAGC</p> <p>561 GGCCTCAGGGTCCCTGACCGATTCTCTGGCTCCAAGTCTGGACCTCCGCTCCCTGGCCATCAGTGG</p> <p>631 GCTCCGTCAGGAGTGAAGGTGATTATTAATGTTCCACATGGGATGACACCCCTGAGTGGTTATATCTTC</p> <p>701 GGAGTTGGACCAAGTCAACGCTCTAGTGGCGCCG</p>
scFv21	57	<p>1 CAGCTGGGGTCCCTGAGACTCTCTCTGCAGCTCTGGATTACCTTTAGCAGCTATGCCATGAGCT</p> <p>71 GGTCCGCCAGGCTCCAGGAAGGGCTGGAGTGGTCTCAGCTATAGTGGTGGTAGCACATA</p> <p>141 CTACGCAGACTCCGTGAAGGCCGGTTCACCATCTCCAGAGACAATCCAAGAACACGCTGTATCTGCAA</p> <p>211 ATGAACAGCCTGAGAGCCGAGGACACGGCCGTGTTACTGTGCGAGAGATTGGAGATGGCAACAATTTG</p> <p>281 GGGCTGGTTCACACCCCTGGGCCAGGACCCCTGTGTCACCGTCTCGAGTGGAGCGCGGTTCAGGGCGG</p> <p>351 AGTGGCTCTGGCGGTGGCGAAGTGCATTTCTCTGAGCTGACTCAGGACCCCTGTGTGTGTGGCC</p> <p>421 TTGGACAGACAGTCAAGATCACATGCCAAGGAGACAACCTCAGAAGTTTCTGCAAGCTGGTACCAGC</p> <p>491 TGAAGCCAGGACAGGCCCTGTACTTGTCTATCTATGGTAAGAACACCCGCCCTCAGGGATCCCAGACCG</p> <p>561 ATTCTCTGCCCTCCAGCTCAGGAACACAGCTTCTTGGCCATCATTGGGGCTCTGGCGGAAGATGAGGCT</p> <p>631 GACTACTACTTAACCTCCCGGACAGCAGTGGTAACCTTATGTCTCGAACTGGGACCAAGGTACCG</p> <p>701 TCCTAGGTGGCGCCG</p>
scFv22	58	<p>1 GGTCTTCGGTGAAGGTCTCTCTGCAAAATTTCCGGAGGCAATCTCAATAGGCTTACTGTACCTGGGTGGC</p> <p>71 ACAGCCCTTGGACAGGCTTGAAGTGGTGGCGAGGATTTCTCCGACTCAGTAATCAAGTCGTGAAG</p> <p>141 TTCCAGCGCAGACTCAACTGACCTCTGACACTCCAGCGCACACCTATTTAGAACTGAGGAGCCTGA</p> <p>211 AATCTGAAGACACGGCCGTCTATTATTTGTGGCGCTCATCTAAATAGGCTTCCAGGTTGGGAGCTCGA</p> <p>281 CTACTGGGCGGGCACCCCTGGTACCGTCTCGAGTGGAGCGCGGTTTCAGCGCGAGGTGGCTCTGGC</p> <p>351 GGTGGCGAAGTGACAGTCTGTCTGACGACCGCCCTCAGCGTCTGCTACCCCGGCGAGAGGTCTA</p> <p>421 CCATCTCTTCTTGAAGCAGCTCCAAACATCGGAAGAAATTAATCTACTGTGTAACAGCAGTCCCAGG</p> <p>491 AACGGCCCCAACTCCTCGTCTATACAAATATCAGCGGCCCTCAGGGGTCCCTGACCGATTCTCTGGC</p> <p>561 TCCAAAGTCTGGCACCTCAGCCTCCCTGGGCATCAGTGGGTCCGTCGAGGATGAGGCTGATTATTACT</p> <p>631 GTTCAACATGGGATGACAGCCTGAGTAGTCCGGTATTCGGCGGGGGACCAAGCTGACCCGTCTAGGTGC</p> <p>701 GGCCGG</p>
scFv23	59	<p>1 CACCTTTAGCAGCTATGCCATGAGTGGGTCCGCGAGGCTCCAGGAAGGGCTGGAGTGGGTCTCAGCT</p> <p>71 ATTAGTGGTAGTGGTGGTAGCACATACAGCACTCCGTGAAGGCCGTTTCAACATCTCCAGAGACA</p> <p>141 ATTCCAAGACACCGCTGTATCTGCAATGAACAGCTGAGACCGAGGACACGGCCGTGTATTACTGTGC</p> <p>211 GAGAGGTAGACGGCGGGAGAGAGTATTAATATGATTCGGGAGTTAGACCACATACGACACTCTGGC</p> <p>281 ATGGACGTCTGGGCGCGGGCACCCCTGGTCAACGCTCTGAGTGGAGCGCGGTTTCAGGCGAGGTGGCT</p> <p>351 CTGGCGGTGGCGGAAGTGACCTTTCCTATGTGCTGACTCAGCCACCTCAGGCTCTGGGACCCCGGCA</p> <p>421 TAGGGTCAACATCTCTTGTCTGGAAGCAGCTCCAACATCGGAAGTAATATGATATATCTGTTACAGCAG</p> <p>491 CTCCCAGGAACGGCCCCCAAACTCCTCATCTATAGGAATAATCAGCGGCCCTCAGGGGTCCCTGACCCGAT</p>

Fig. 11

scFv24	60	<p>561 TCCTGGCTCCAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGTCGGTCCGAGGATGAGGCTGA</p> <p>631 TTATTACTGTGACGATGGGATGACACCCCTAAGTGGTGTCTTATTCGGCGGAGGACCAAGCTGACCGTC</p> <p>701 CTAGTGGGCGCG</p>
scFv25	61	<p>1 GCTATGCCATGAGCTGGTCCGCCAGGCTCCAGGATCCAGGAGGGCTGAGTGGTCTCAGCTATTAGTGGTAG</p> <p>71 TGGTGGTAGCACATACTACGAGACTCCGTGAAGGCGGTTCCACATCTCCAGAGACAATTCGAAGAAC</p> <p>141 ACCTGTATCTGCAAAATGAACAGCCTGAGAGCCGAGGACACGCGCTGATTACTGCGGAGAAATACAG</p> <p>211 GAAAGGCCATTACTTTGGTTCGGGAGTATATTGTAGACTGTACCGCAGTTCTACATCCCGCATGGA</p> <p>281 CGTCTGGGCGCAGGACCCCTGGTCACTGTCTGAGTGGAGGCGCGGTTCAAGGCGAGGTGGCTCTGGC</p> <p>351 GGTGGCGGAAGTGCACAGGCTGTGTGACTCAGCCGCTCAGCGTCTGGACCCCGGCGAGAGGTTCA</p> <p>421 CCATCTCTTGTCTGGAAGCACCTCCACATCGGAAGAAATATGTAGATTGGTACCAGAGCTCCAGG</p> <p>491 AACGGCCCCAACTCCTCATCTATAGGAATAATAAGCGGCCCTCAGGGTCCCTGACCGATTCTCTGGC</p> <p>561 TCCAAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGCTCCGAGGATGAGGCTGATTACT</p> <p>631 GTGACGCTTGGGATGACAGCCTGAGTGGTGGTATTTCGGCGGAGGACCAAGCTGACCGTCTCTAGGTGC</p> <p>701 GCGCGC</p>
scFv26	62	<p>1 TGGAGTCTGGGGAGGCTTGGTACAGCTGGGGGTCCTGAGACTCTCCTGTGCAGCCTCTGGATTCA</p> <p>71 CTTTAGCAGTATGCCATGAGCTGGTCCGCCAGGCTCCACGGAAGGGCTGGAGTGGTCTCAGCTATT</p> <p>141 AGTGGTAGTGGTAGCACATACTAGCAGACTCCGTGAAGGCGGTTCCACATCTCCAGAGACAATT</p> <p>211 CCAAGAACAGCTGTATCTGCAATGAACAGCCTGAGAGCCGAGGACACGCGCTGATTACTGTGGAG</p> <p>281 AGATTGGAGATGGCAACAATTGGGGCTGGTTCACCCCTGGGGCGAGGACACCGTCCCGTCTCG</p> <p>351 AGTGGAGGCGCGGTTCAAGCGGAGGTGGCTCTGGCGGTGGCGAAGTGCATTGAAACGACACTCACGC</p> <p>421 AGTCTCCAGCCACCTGTCTCTCCGGGGACAGAGCCACCTCTCCTGAGGGCCAGTCAAAAGTAT</p> <p>491 TGGTGGCAACTTAGCCTGGTACCAAGAGAAACCTGGCCAGCCTCCAGGCTCATCTTTGGTGCATCC</p> <p>561 ACTAGGGCCTCTGGTACCCAGCCAGGTTCAAGTGGCAGTGGGCTGGGACAGAGTTCACTCAACATCA</p>

Fig. 11

scFv27	63		631 GCAGCCTGCAGTCTGAAGATTTTCAGATTTTACTGTCTCAGCAGTATAATAACTGGCCTCCATGGACTTTT
			701 CGGCCAAGGGACACGACTGGAGATTAACGTCGGCGCG
scFv28	64		1 ACAGCCTGGGGGTCCTGAGACTCTCCTGTGAGCCTCTGAGTTCACCTTTAGCAGCTATGCCATGAGC
			71 TGGGTCGGCCAGGCTCCAGGGAAGGGCTGGAGTGGTCTCAGCTATTAGTGGTAGGTAGACAT
			141 ACTACGAGACTCCGTGAAGGCGGTTACACATCTCCAGAGACAATTCAGAGAACACACCTGTATCTGCA
			211 AATGAACAGCCTGAGAGCCGAGGACACGCGCTGTATTACTGTGGAAGGGGACGGGTAGTGGCTGGA
			281 ACTACGTACTACTACTACGGTATGGACGTCTGGGGCGAGGAGCCACGCTCAGCTCTGCTGACGACGCCCTCAGC
			351 GCGGTTACGGCGGAGGTGGCTCTGGCGGTGGGGGAGTGCACAGTCTGTGCTGACGACGCCCTCAGC
			421 GTCTGGGCCCCCGGCGAGAGATCACCATCTCTTTGTCGGGAAGCACCTCAACATCGGGGAGAAATTAT
			491 GTTGACTGGTATAAACAACCTCCCGGAACGGCCCCCAACTCTTCACTATAAGAAATGATCAGCGACCT
			561 CAGGGTCCCTGACCGATTCTCTGGCTCCAGTCTGGACCTCAGCCTCCCTGGTCTGTAAGTGGACTCCG
			631 CTCCGAGGATGAGSCTGATTATTACTGTCTGACTTGGATGACAGCCCTGAGTGGTCCGGTGTTCGGCGGG
scFv29	65		701 GGGACCAAGCTGACCGTCTAGTGGCGCGC
			1 GGCCTCTGATTGGGCTCAATGGCTATGAATGCATTTGGGTGGCCAGGCCCGCCGACAAAGGCTTGAG
			71 TGGTGGGCGGATCAACGCTGCCATTGGCGACACACGGTATTCAAGGAGTTCCAGGATAGAGTCTCCA
			141 TTACAGAGACATGTCCGGAACACAGTCTACATGGAGATGAGCAGGCTGAGATTTGAAGACACACGGCTGT
			211 TTATTATTGTGAGATTCCAGGATTGGCGACATTTGAATAGTGCCACTGTTCAGCCCCCTTTTGACCCAC
			281 TGGGCAAGGAACCTTGGTACCGTCTCAGTGGAGCGCGGTTTCAGGCGGAGGTGGCTCTGGCGGTG
			351 GCGAAGTGCACTTCTCTGAGCTGACTCAGGACCCCTGTGTCTGTGTGGCTTGGGACAGACAGTCTAG
			421 GATCACATGCCAAGGACAGACCTCAGATACTATTCTGCAAGTTGGTACCGGACGAAGCCAGGCGAGGCC
			491 CCTGTTATTGTATGTATGTTAAACACCGCGCGCTCAGGATCCCAGACCAATCTCTGGCTCCAGCT
			561 CAGGAACACAGCTTCTTGACCATCAGTGGGCTCAGCGGAGATGAGGCTGACTATTATTGTAATC
scFv30	66		631 CCGAGACAGTAGTGGTAACCATCTGGTCTCGGCGGAGGACCAAGCTGACCTCTAGGTGCGGCGCG
			1 GTACAGCCTGGGGGTCCTGAGACTCTCTGTGAGCCTCTGGATTCACCTTTAGCAGCTATGCCATGA
			71 GCTGGTCCGCCAGGCTCCAGGGAAGGGCTGGAGTGGTCTCAGCTATTAGTGGTAGTGGTGGCAGCAC
			141 ATACTACGAGACTCCGTGAAGGCGGTTACCATCTCCAGAGACAATTCAGAAACACGCTGTATCTG
			211 CAAATGAACAGCCTGAGAGCCGAGGACACGCGCTGTATTACTGTGCGAGAGATCATCGGTGCGGACGCG
			281 GAGGTGGAGCTACTTACTAGCCCTTTGGACTCTGGGCGCAAGGACAAATGGTCAACCTCTCGAGTGG
			351 AGGCGCGGTTACGGCGGAGGTGGCTCTGGCGGTGGGGAAGTGGACTGCCTGTGCTGACTCAGCCACCC
			421 TCAGCGTCTGGACCCCCGGGAGAGGTCAACATCTTGTCTGGAAGCAGTCCACATCGGAAGGA
			491 ATTATGATATCTGTTACCGAGCTCCAGGAACGGCCCCCAACTACTCATCTATAGAAATATCTGG
			561 GCCCTCAGGGTCCCTGACCGATTCTCTGGCTCCAGTCTGGACCTCAGCCTCCCTGGCCATCAGTGGG
scFv30	66		631 CTCCGTCGAGGATGAGGCTGATTATTACTGTGAGCATGGGATGACACCCCTGAGTGGTGGTATTTCG
			701 GCGGAGGACAAAGCTGACCGTCTAGTGGCGCGC
			1 CGGAGGTGAGGAAGCCTGGGGCTCCTAGTGAAGATTCTCTGCAAGGCTTCTGGATTACGTTCACTAGTTA
			71 TCTATTCCATTGGTGGCCAGGCCCGCCGACAAAGGCTTGAGTGGATGGGTGGATCAACGCTGGCAAT
			141 GGAAACACAAATATTACCGAAGTTCAGGGCAGAGTTACCTTACCGGGACACATCCACGAGCACAA

Fig. 11



	<p>211 CCTACATGGAGCTGAGCAGCCTGACATCTGAGACACGGCTGTTTATTACTGTGCGAGAGATCAGGTGTT</p> <p>281 CTATGAGAGTGGTTCTTACTACATACGCCCTTCTTTTACTTCTGGGAGGGGCACCCGTGTCACCCGTC</p> <p>351 TCTTCAGGTGGAGCGGTTACGGGAGGTCAGCAGCGGTCGGGTGGCGATCCGACATCCAGATGACCCAGT</p> <p>421 CTCTTCCACCCCTGTCTGCATCTATTGGAGACAGATCACCATCACCTGCCGGGCCAGTGAGGGTATTTA</p> <p>491 TCACGTGTTGGCCTGGTATCAGCAGAACCCAGGGAAGCCCTAAACTCTCTGATCTATAAGGCCTCTAGT</p> <p>561 TTAGCCAGTGGGCGCCCATCAAGTTTCAGCGCAGTGGATCTGGACAGATTTCATCTCACCATCAGCA</p> <p>631 GCCTGCAGCCTGATGATTTTGCACCTTATTACTGCCAACATATAGTATTATCCGCTCACCTTTCGGCGG</p> <p>701 AGGGACCAAGCTGGAGATCAACGTTGGCGCGC</p>	<p>1 TGGTACGGCCTGGGGGTCCTCGAGACTCTCTGTGCAGCCTCTGGATTACCTTTGATGATTATGGCAT</p> <p>71 GAGTGGGTCCGCCAAGCTCCAGGGAAGGGCTGGAGTGGTCTCTGTGTTTAAATTGGAATGGTGTAGC</p> <p>141 ACAGTTATGCAGACTCTGTGAAGGCGGATTACCATCTCCAGAGACAACGCCAAGAACTCCCTGTATC</p> <p>211 TGCAATAAACAGTCTGAGAGCCGAGGACACAGCCGTGTATTACTGTGCAAGAGGCGGTATGCGTTGGA</p> <p>281 TTATTGGGCGAGGGACAATGGTCACTCTGAGTGGAGGCGGCTTCAAGCGGAGGTGGCTCTGGC</p> <p>351 GGTCGGGAAGTGCATTTCTTCTGAGCTACTCAGGACCTGCTACTGTGTCTGTGGCCTTGGACAGA</p> <p>421 CAGTCAGGATAACTTGTACGGCGACAGCCTCGACAATATTATGCACCTGGTATCAACAGAAGCCTGG</p> <p>491 ACAGGCCCTCTACTTGTCTTCTGTAACAGCGGCCCTCAGGGATCCAGACCGTTTCTCTGGC</p> <p>561 TCCAACTCGGGAACACAGCTTCTTGACCATCACTGGGCTCAGCGGAGGATGAGGCTGACTATTACT</p> <p>631 GCAACTCCCGGGAATCGGTACTAATCGAATCCTATTCCGGCGAGGACCAAGCTGACCGTCTCTAGGTGC</p> <p>701 GCGCGC</p>	<p>1 TTGGTTACGCTGGAGGTCCTGAGACTCTCTGTGCAGCCGCTGGATTACCTTCAGTACTTTTGAAA</p> <p>71 TGAATTGGTCCGCCAGGCCAGGAGGGCTGGAGTGGTTTCATATATTAGTGGTAGTGGTCATGC</p> <p>141 CATATACTACGAGACTCTGTGAAGGCGGATTACCATCTCCAGAGACAACGCCAACAACCTCACTGTAT</p> <p>211 CTGCAATGACAGTCTGACAGCCGAGGACACGGCTGTTATTACTGTGCGAGAGAAAGTACCACTAC</p> <p>281 TACTTGGCAAGTACGACTACGGTATGGAGTCTGGGCGGGGAGTGCATGCTGTGCTCAGCCACCTCA</p> <p>351 CGCGGTTTCAGCGGAGGTGGCTCTGGCGGTGGGGAAGTGCATGCTGTGCTCAGCCACCTCA</p> <p>421 GCGTCTGGGACCCCGGAGAGGTCAACATCTCTGTCTGGAAGCAGCTCCAACATCGGAAGTAATA</p> <p>491 CTTTAACTGTGTACAGAGCTCCAGGAACGGCCCAACTCTCTATAGTAATGATCAGCGGCC</p> <p>561 CTCAGGGTCCCTGACCGATTCTCTGGCTCCAAGTCTGGCACTCAGCCCTCCCTGGCCATCAGTGGGCTC</p> <p>631 CAGTCTGAGGATGAGGCTGATTATTACTGTGACAGTGGGATGACAGCCTGAATGGCTGGGTGTTGGGG</p> <p>701 GAGGGACCAAGGTCAACCGTCTAGTGGCGCGCGC</p>
scFv31	67	68	69
scFv32			scFv33

Fig. 41

scFv34	70	281	GCCGAGGACCCCTGGTCACCGTCTCGAGTGGAGGGGGCGGTTTCAAGCGGAGGTGGCTCTGGGGTGGCGG
		351	AAGTGCACAGTCTGTGTGACGACGCTGCCCTACGGCTTGGGGCCCCGGGAGAGGATACCATCTCT
		421	TGTTCCGGAAGCACCTTCAACATCGGGAGAAATATGTGATGGTATAAACAATCCCCGAACGGCCC
		491	CCAAACTCTTCACTATAAGAAATGATCAGCCAGCTCAGGGTCCCTGCGCGATTCTCTGGCTCCAAGTC
		561	TGGCACCTCAGCCTCCCTGGTGGTAAAGTGGATCCGCTCGAGGATGAGGTGATTTACTGTCTGACT
		631	TGGGATGACAGCCTGAGTGGTCCGGTGTTCGGCGGGGGACCAAGCTGACCGTCTTAGTGGGGCCGC
		1	GCCTGCAGGGTTTTGGTTACACCTTCGTGATCATGGAAATTTAGTTGGTGGACAGGCCCTGGACAAG
scFv35	71	71	GGCTTGAGTGGATGGGATGGATCAACATCAACGAGGTCAACAATAATATGCACAAAGACACAGGCCAG
		141	ACTCACCATGACCACAGATGCCCTCCATTAACTTCTTACATGGAGCTCGGAGCCTGACATCTGACGAC
		211	ACGGCCGCTATTATTGTGCCCGGGGGAGAGACTCGGACCGCACATAGATCTCGCAGGGCCACGAACG
		281	ACAATGGATATCCCTATTACTCTCTGGTCTGGACGCTCTGGGCGCAAGGAACCCCTGGTCAACGCTCGAG
		351	TGAGCGCGCGGTTCAAGCGGAGGTGGCTCTGGCGGTGGCGAAGTGCAGAGCTGTGCTGACTCAGCGG
		421	TCCTCAGCGTCTGGGACCCCGGACAGAGGTCAACATCTCTTTCTTGGAGCAGCTCCAACATCGGAA
		491	GTAATATGTATACTTGGTACCAGCAGCTCCAGGAACGGCCCCCAACTCTCTATATAGGAATAATCA
scFv36	72	561	GCGGCCCTCAGGGTCCCTGACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCCATCAGT
		631	GGGCTCCGGTCCGAGGATGAGGCTGATTATTTACTGTGACATGGATGGATGACAGCCTGAGTGGTGGTGT
		701	TCCGCGAGGGACCAAGCTGACCGTCTTAGTGGGGCCGC
		1	AGCCTGGGGCCCTCAGTGAAGTTTCTCTCAAGCATCTGGATACACCTTCACCAGCTACTATATGCACTG
		71	GGTGCACAGGCCCTGGACAAGGCTTGAAGGATGGGAATAATCAACCTAGTGGTAGCACAAAGC
		141	TACGCACAGAAGTCCAGGGCAGAGTCAACATGACCAGGACAGCTCCAGGACACAGTCTACATGGAGC
		211	TGACAGCCTGAGATCTGAGGACACGGCCGTGTTACTGTGCGAGAGGTTCGGGCGCAGAAATGGTTCG
scFv36	72	281	GGAGTTATTATAGACCCCTACGGTATGGAGTCTGGGCGGAGGACCTGGTCAACGCTCGAGTGGGA
		351	GGCGCGGTTTCAAGCGGAGGTGGCTCTGGCGGTGGCGAAGTGCACAGTGTGTGCTGACTCAGCCACCT
		421	CAGCGTCTGGACCCCGGCGAGGGTCAACATCTCTTTTCTTGGAGCAGCTCCAGCTCGGAAGTAA
		491	TTATGTATCTGTGATCAGCAGTCCAGGACGGCCCCCAACTCTCTATATAGGAATAATCAGCGG
		561	CCCTCAGGGTCCCTGACCGGTTCTCTGGTCCAAGTCTGGCATTTTCAAGCTCCCTGGCCCATCAGTGGG
		631	TCCGTCGAGGATGAGGCTGATTTTACTGTGATGATGGATGACAGCCTGAGGGAATAATGTCTTCGG
		701	AACTGGGACCAAGTCAACCGTCTAGTGGGGCCGC
scFv36	72	1	GGAGTCTGGGGAGGCTTGGTACAGCCTGGGGGTCCCTGAGACTCTCTGTGACGCTCTGGATTCAAC
		71	TTTAGCAGCTATGCCATGAGTGGGTCCGACAGGCTCCAGGAAGGGCTGGAGTGGTCTCAGCTATTA
		141	GTGGTAGTGGTGTAGCACATACGACACTCCGTGAAGGGCCGGTTCACCATCTCCAGAGACAATTC
		211	CAAGAACACGCTGATCTGCAATGAACAGCCTGAGAGCGGAGGACAGGCGGTGATTTACTGTGGGAAA
		281	GGTGGACTAGGTGACCCACCGGGTGGTTTATATATGGGCGGAGGACAATGGTCAACCGTCTCGA
		351	GTGGAGGGGGGTTTCAAGCGGAGGTGGTCTGGCGGTGGCGAAGTGCATGCCCTGTGTGACTCAGCC
		421	CCCTCAGCGTCTGGGGCCCCCGGACAGGATCAACATCTCTTGTTCGGGAAGCACCTTCAACATCGGG
scFv36	72	491	AGAAATATGTGACTGTATATAACAACCTCCCGGAAAGCCCCCAACTCTTCTATCTATAAGATGATC
		561	AGGACCCCTCAGGGGTCCCTGACCGATTCTCTGGTCCAAGTCTGACACCTCAGCCTCCCTGGTCTGTAAG

Fig. 11

		631	TGGACTCCGCTCCGAGGATGAGGCTGATTATTACTCTCTGACTTGGGATGACAGCCTGAGTGGTCCGGTG
		701	TTCCGGCGGGGGGACCAAGCTGACCGTCTCTAGGTGCGGCCGC

Fig. 11

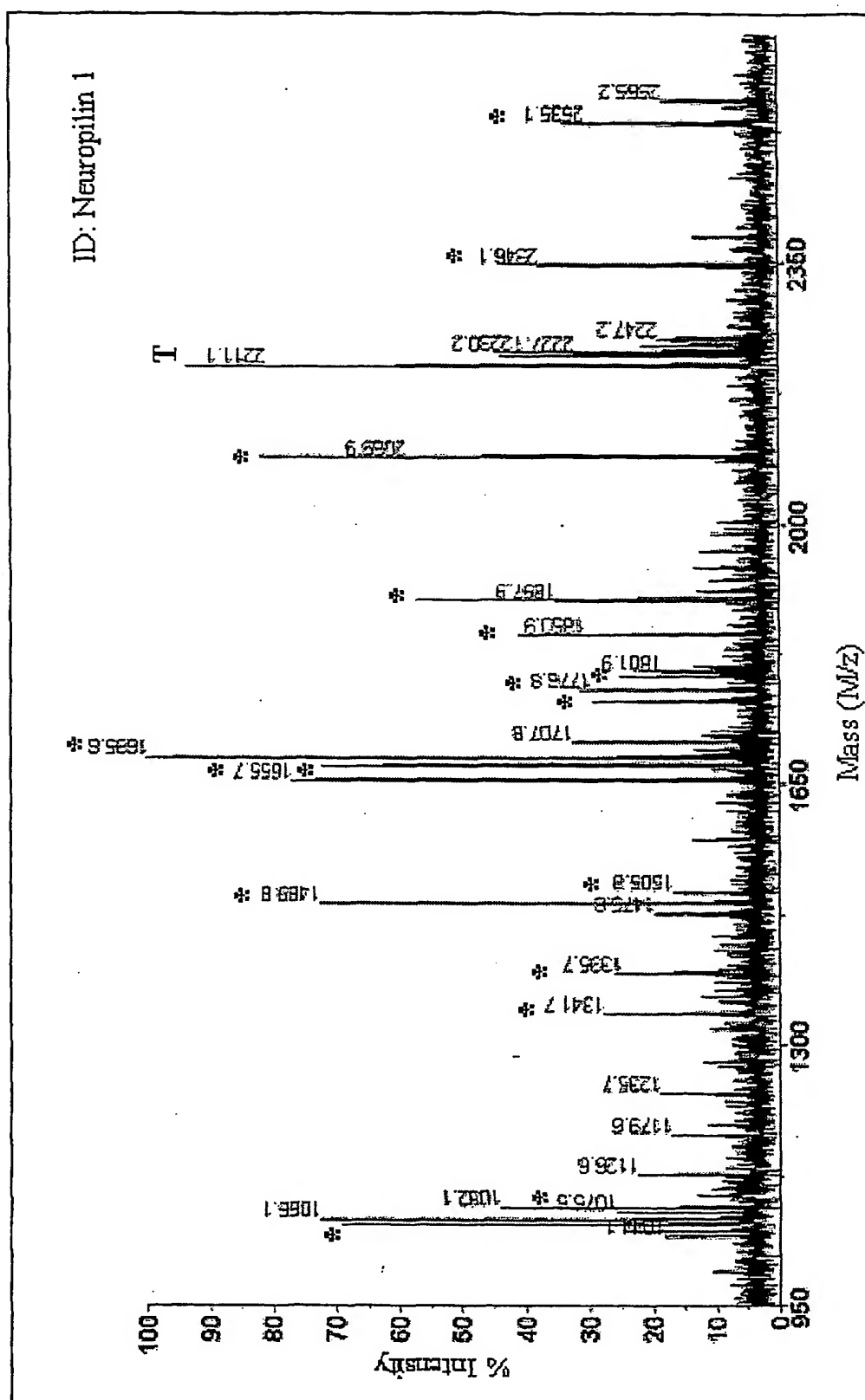


Fig. 12

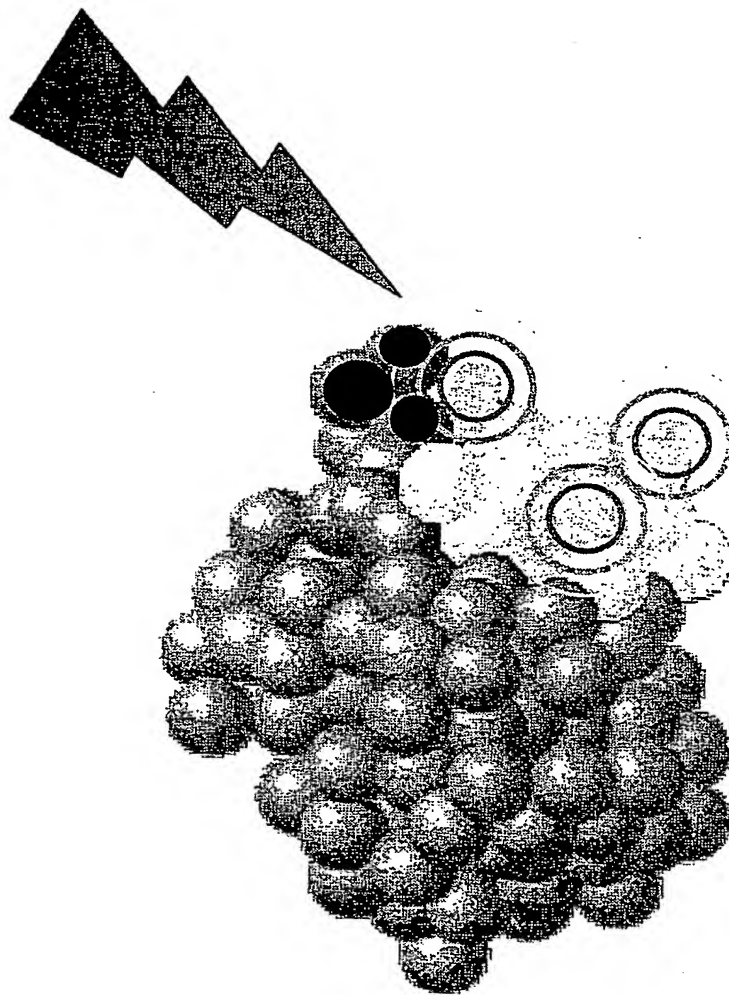


Fig. 13



Fig. 14c

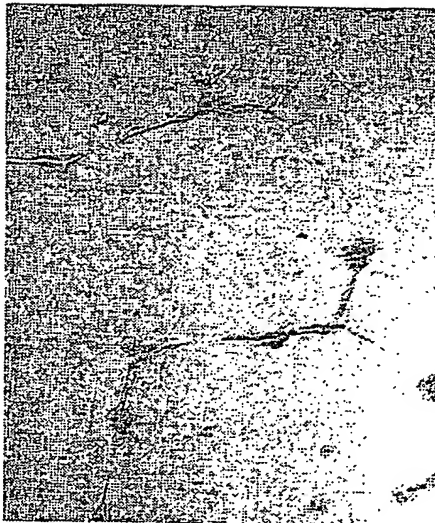


Fig. 14b



Fig. 14a

**Tab. 1: Inhibition of tube formation**

scFv	Average inhibitory effect
control (10% PBS)	0.8
scFv4	1.7
scFv5	1.6
scFv7	2.4
scFv8	2.4
scFv9	1.5
scFv11	2.2
scFv12	1.9
scFv13	2.1
scFv15	1.9
scFv16	1.6
scFv18	2.0
scFv19	1.6
scFv20	1.3
scFv21	2.0
scFv22	1.5
scFv23	2.1
scFv24	1.7
scFv25	2.3
scFv26	2.1
scFv27	2.3
scFv28	2.2
scFv29	2.1
scFv30	1.8
scFv31	2.4
scFv32	1.7
scFv33	2.1
scFv34	1.5
scFv35	1.4
scFv36	1.9
scFv7*	2.3
scFv8*	2.5
scFv13*	2.5
scFv25*	2.6
scFv26*	2.4
scFv28*	2.1
scFv31*	2.3
scFv33*	2.1
anti-alpha-2-integrin	2.3
anti-NP-1	1.1

**Fig. 15**

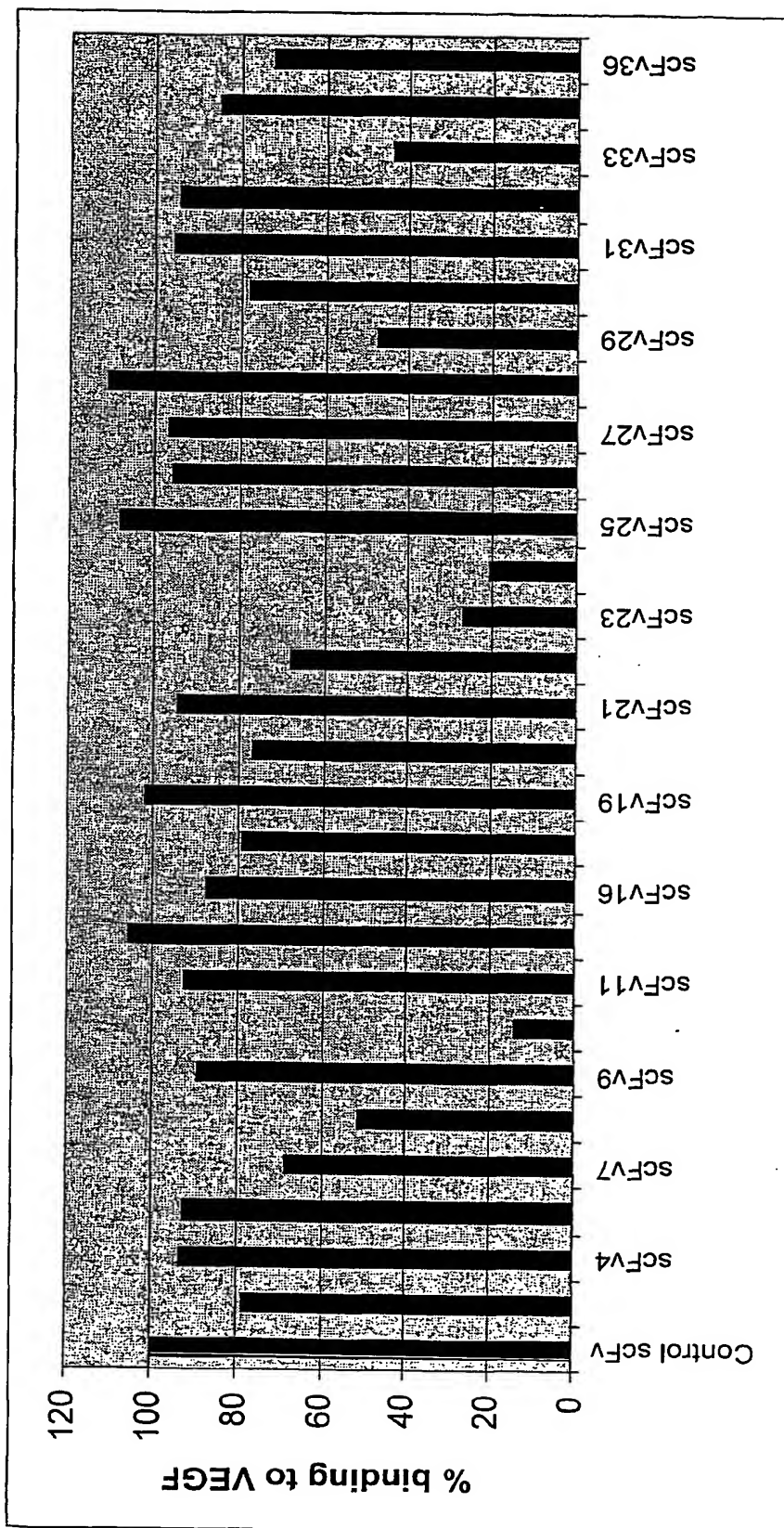


Fig. 16



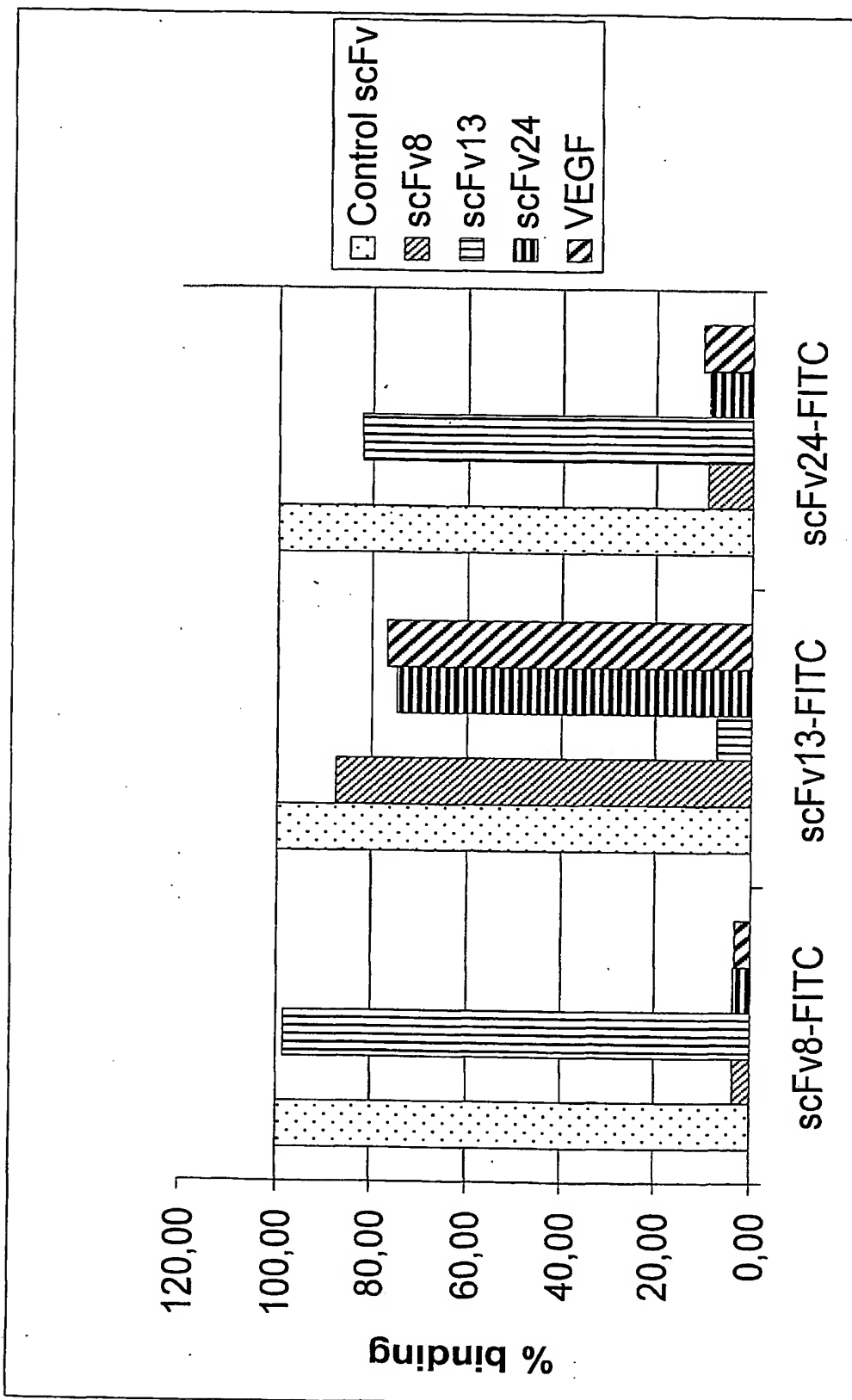


Fig. 17

**Tab.2 Transendothelial Invasion assay**

scFv	Inhibition of Invasion
scFv26	+
scFv27	+
scFv34	+
ScFv35	+

**Fig. 18**

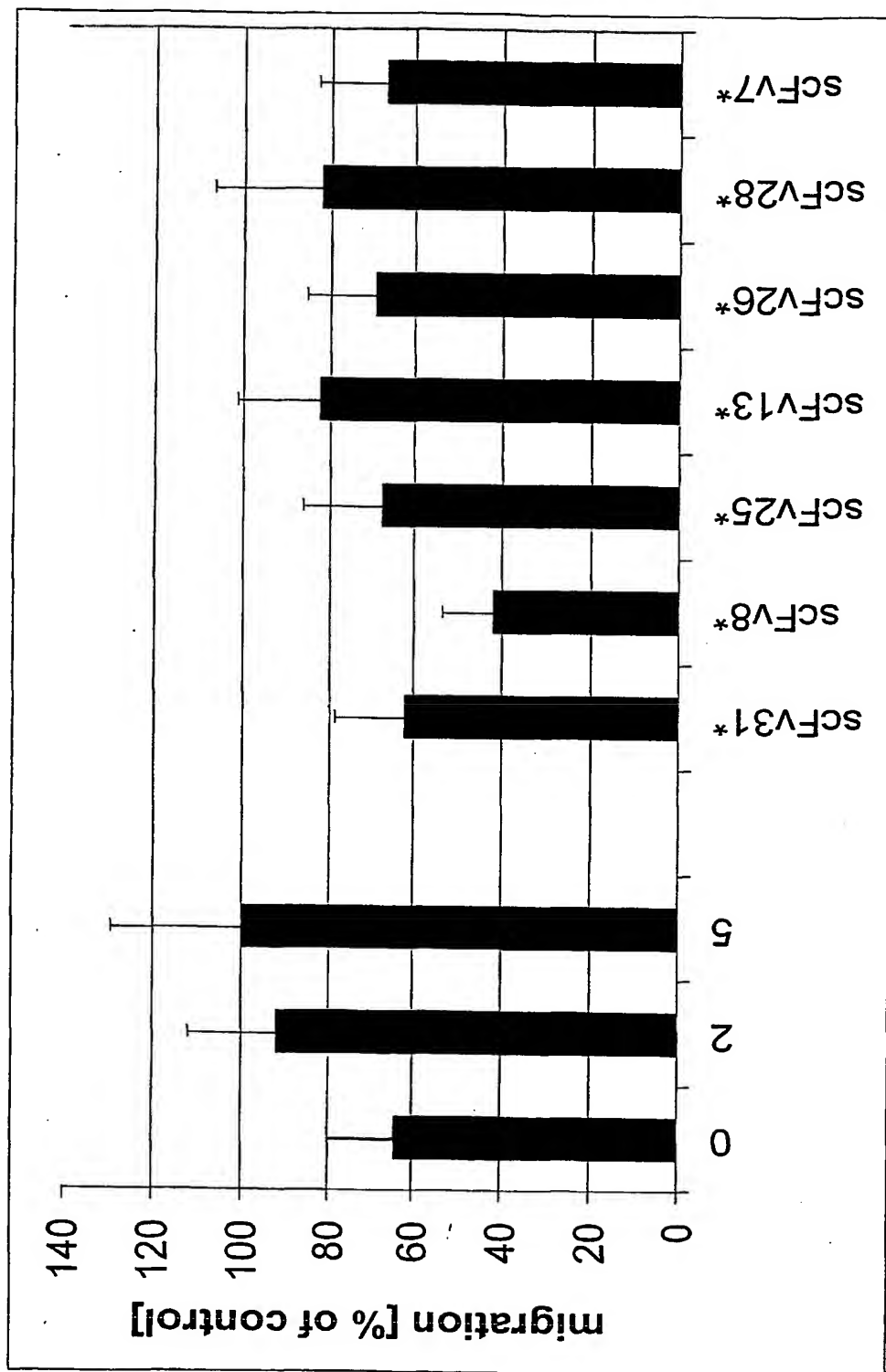


Fig. 19

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